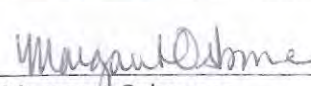




Region 6 Enforcement and Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	10/1- 4/2019		
Media:	Air		
Regulatory Program(s)	SIP, Title V, NESHAP, NSPS		
Company Name:	HollyFrontier Navajo Refining LLC		
Facility Name:	Artesia Refinery		
Facility Physical Location:	501 E. Main Street		
(city, state, zip code)	Artesia, NM 88210		
Mailing address:	P.O. Box 159		
(city, state, zip code)	Artesia, NM 88211-0159		
Parish:	Eddy County		
Facility Contact:	Scott M. Denton	Environmental Manager	
	Scott.Denton@HollyFrontier.com	(575) 746-5487	
FRS Number:	1100 0047 2630		
Identification/Permit Number:	NMED AI # 198; Title V Permit # P051-R2 issued 5/6/15 NSR Permit # PSD-NM-0195-M37 issued 8/12/16		
Media Number:	AFS 35-015-00010		
NAICS:	324110		
SIC:	2911		
Personnel participating in inspection:			
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EPA Lead Inspector Signature/Date			12/2/19
	Debbie Ford		Date
Supervisor Signature/Date			12/2/19
	Margaret Osbourne		Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

Environmental Protection Agency (EPA) Region 6 inspectors Debbie Ford and James Haynes, Environmental Resources Group (ERG) contractor for EPA Dan Roper, and New Mexico Environment Department (NMED) Air Quality Bureau staff Cindy Hollenberg, Kate Hauer, and Sherry Bell arrived at the HollyFrontier Navajo Refining LLC (HollyFrontier) / Artesia Refinery (facility or Artesia) at 8:00 a.m. on October 1, 2019 for an unannounced inspection. There was confusion at the main gate about the requirements for our entry. Inspectors initially were instructed to take computer training and testing, but when Mr. Denton was reached, he instructed the group to enter at the Administration Office where the environmental staff were located. We were not instructed to watch a safety video for the facility (*see AOC #*). We were accompanied by facility personnel when we were onsite.

At 9:10 a.m. we met with Mr. Denton, Artesia Environmental Manager, and Mr. Smalts, Artesia Environmental Specialist, for the opening conference. EPA and ERG inspectors presented their credentials to Mr. Denton. I informed Mr. Denton and Mr. Smalts that this was an EPA inspection triggered by the elevated benzene levels detected by the fenceline monitoring (FLM) required by National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart CC. The purpose of the inspection was to determine compliance with the facility's Title V Air Permit and the Clean Air Act (CAA), which is authorized under Section 114(a) of the CAA. The scope of the inspection is a partial compliance evaluation (PCE) and includes an evaluation of the compliance of the facility with applicable New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), and NMED regulations in the State Implementation Plan (SIP).

On Thursday, October 3, EPA's National Enforcement Investigations Center (NEIC) inspectors Martha Hamre and Richard Helmich, arrived at the facility with the NEIC Geospatial Measurement of Air Pollutants (GMAP) vehicle. After presenting their credentials to Mr. Denton, Ms. Hamre and Mr. Helmich, accompanied by a HollyFrontier employee, began surveying within the refinery boundaries and the nearby community to identify sources of emissions. They continued throughout Thursday and until noon on Friday collecting meteorological and emission data with the GMAP as well as several canisters for analysis by the NEIC laboratory. The NEIC report of monitoring activities and results of canister sampling is separate from this report.

During the inspection we took photographs using Nikon COOLPIX AW120 digital cameras and videos using FLIR Systems GF320 infrared cameras. The FLIR GF320 infrared camera is designed to visually detect hydrocarbons in the infrared spectrum that are typically emitted by facilities such as refineries, oil and gas sites, and other similar industries. At the end of the inspection, we shared copies with HollyFrontier of all videos and photographs taken.

FACILITY DESCRIPTION

The Artesia Refinery is owned by HollyFrontier Navajo Refining LLC. It began operation as the Navajo Refining Company in the 1930s by Continental Oil Company. Holly purchased the facility in 1969. Holly merged with Frontier in 2013 to create HollyFrontier Corporation, of which HollyFrontier Navajo Refining LLC is a subsidiary.

The facility is a 40,000 barrels per day (bpd), fully-integrated petroleum refinery with crude distillation, vacuum distillation, Fluidized Catalytic Cracking (FCC), solvent deasphalter, hydrofluoric acid alkylation, catalytic reforming, hydrodesulfurization, isomerization, sulfur recovery, and product blending units. The Artesia Refinery receives crude oil via truck and pipeline. The facility has approximately 300 employees and averages 150 contractors per day.

Although separate facilities, HollyFrontier considers the Lovington Refinery (Lovington), located approximately 70 miles from Artesia, to be a part of the Artesia Refinery. Lovington uses a crude distillation unit and associated vacuum distillation units to process approximately 74,000 bpd of crude into intermediates which are transported to Artesia via pipeline. Vacuum bottoms are transported to Artesia via tank truck. The combined capacity is 110,000 bpd.

The Artesia refinery is a major source of hazardous air pollutants (HAPs) as well as a major source for volatile organic compounds (VOCs). As a major source, it is required to operate under a CAA Title V operating permit. The current New Source Review operating permit for the facility is PSD-NM-0195-M37 issued August 12, 2016 and the current Title V operating permit is P051-R2M1 issued January 22, 2016. P051-R2M1 is an Administrative Amendment to P051-R2 for a name change of the company. The full Title V Permit with applicable conditions is P051-R2 issued May 6, 2015. The facility also has an active Consent Decree CIV-01 1422LH that was entered March 5, 2002 under EPA's Refinery Consent Decree Initiative <https://www.epa.gov/enforcement/petroleum-refinery-national-case-results>.

NESHAP Subpart CC Fenceline Monitoring Program for Benzene Emissions

NESHAP Subpart CC requires biweekly sampling of benzene using passive monitors at fenceline sampling points. NESHAP Subpart CC also requires that the facility collect meteorological data to help determine sources of any elevated emissions detected by the fenceline monitors. After twenty-six (26) 2-week periods, Subpart CC requires the facility to calculate an annual average benzene concentration (Δc) and compare the results to the action level of $9 \mu\text{g}/\text{m}^3$.

Artesia began the required FLM program January 30, 2018 and have 19 sampling locations (*see Appendix 9, page 5*). Prior to the start of the required monitoring, Artesia began 2-week sampling on October 4, 2016 (beginning date of the sampling period). Artesia reported that the initial annual average Δc was $290 \mu\text{g}/\text{m}^3$, which was the highest reported concentration in the nation.

HollyFrontier submitted the May 15, 2019 Corrective Action Plan (*see Appendix 9*) required by 40 C.F.R. § 63.658(h) to report the actions taken by the facility to determine the root cause of elevated benzene readings and the actions taken to address them. HollyFrontier submitted Amended Corrective Action

Plans on July 3, 2019, September 3, 2019, and October 11, 2019 (*see Appendices 10-12*). The Corrective Action Plans detailed the use of temporary samplers and FLIR infrared camera to determine the source(s) of the elevated benzene emissions. HollyFrontier identified external floating roof (EFR) tanks T-57, T-401, and T-450 as contributors to elevated benzene readings; in response, in December 2017, Artesia installed socks on the legs and vacuum breakers. The socks seemed effective for T-401 and T-450, but not Tank-57. The refinery installed a more effective sock for the vacuum breaker of T-57 in July 2018. HollyFrontier also identified plugged tubes in a heat exchanger that is used to cool naphtha going to T-57. The heat exchanger should cool the material to 80°F, but HollyFrontier reported the temperature of the naphtha was 100°F going into T-57. HollyFrontier also reported T-11 maintenance activities and a T-106 overflow and damage as contributors to elevated benzene.

Section II – OBSERVATIONS

Mr. Denton stated that the facility has seven employees on the environmental staff. Currently, he said there are two employees who manage the air requirements: Ray Smalts and Staci Hammond. There was also one open position.

Applicability and Inspections of Storage Vessels

I asked about the inspections performed on the EFR and internal floating roof (IFR) tank and what regulations the facility is complying with for Group 1 storage vessels since the operating permit only stated that the tanks were subject to NESHAP Subpart CC. The original NESHAP Subpart CC Storage Vessel Provisions at 40 C.F.R. § 63.646 required compliance with the Hazardous Organic NESHAP (HON) tank requirements in NESHAP Subpart G. In 2015 NESHAP Subpart CC added new Storage Vessel Provisions at 40 C.F.R. § 63.660 which have different breakdowns of tank size, vapor pressure, and HAP content for identifying tanks as Group 1 or Group 2 and require compliance with NESHAP Subpart WW. Table 11 in Subpart CC provides which requirements apply to new or existing tanks. The table provides for transitioning to Subpart WW for existing tanks.

Mr. Smalts stated that they are following NESHAP Subpart WW. I asked how long the facility had been following Subpart WW and he replied, “Forever.” He provided his book of Tank Applicability (*see CBI Appendix A*) which Mr. Smalts stated that he worked with a consultant to develop. I reviewed the details of the tanks, and it appears that the current applicability is based upon the 2015 changes to Subpart CC.

Mr. Omar Dominquez from the Inspections Department at Artesia performs tank inspections which include the rooftop inspections for IFR tanks, primary and secondary seal gap measurements for EFR tanks, as well as the out-of-service inspections required for IFR tanks and the API 653 inspections required for IFR and EFR tanks. Mr. Dominguez keeps a spreadsheet to track when each inspection is due.

The regulations (NSPS Subpart Kb, NESHAP Subpart G, and NESHAP Subpart WW) require that notification be made at least 30 days prior to the NSPS and NESHAP inspections to allow the regulatory

agency to have an observer present. Artesia submits a schedule in December each year for the following year's inspections. Artesia sent NMED the 2019 schedule in a letter dated December 12, 2018 (**see Appendix 15**). The letter begins by referencing the HON (40 C.F.R. § 63.120(b)(9)), "as applicable to Group 1 storage vessels subject to 40 C.F.R. § 63.660 (MACT Subpart CC storage vessel provisions)." EPA modified NESHAP Subpart CC in 2015. There are now two (2) sections for "storage vessel provisions":

- 40 C.F.R. § 63.646 which requires Group 1 tanks to follow the HON
- 40 C.F.R. § 63.660, which requires Group 1 tanks to comply with NESHAP Subpart WW if the Max TVP < 11.1 psia, or SS if the Max TVP ≥ 11.1 psia.

The definition of Group 1 tanks in NESHAP Subpart CC changed with the 2015 revision to the rule. Prior to February 1, 2016, the old Group 1 definition applied. On or after February 1, 2016, the new definition applies. NESHAP Subpart CC transitions tanks from complying with the HON to WW or SS as they are emptied and degassed or by January 30, 2026, whichever occurs first.

The regulations require the use of probes to determine the width of gaps between the primary or secondary seal and the wall of the tank:

- NSPS Subpart Kb and NESHAP Subpart G describe the measurement tool as a 1/8" uniform probe that identifies a measurable gap, and the use of varying width probes to calculate the area of the gap and to determine if any width exceeds 1/2" for secondary seals or 1.5" for primary seals.
- NESHAP Subpart WW describes the measurement tools as 1/8" probe and additional probes at 1/8" increments. The maximum widths are the same as for NSPS Subpart Kb and NESHAP Subpart G.

Mr. Dominguez informed us that he uses a 1/8" metal rod (carbon steel) initially. The other probes he uses are wooden dowels in 1/16" increments from 3/16" to 1/2" (3/16", 1/4", 5/16", 3/8", 7/16", 1/2"). For primary seals greater than 1/2", he uses a tape measure to determine the gap width (**see AOC #23**).

The methodology for calculating the seal gap areas is also different from NSPS Subpart Kb or NESHAP Subpart G compared NESHAP Subpart WW. Under NSPS Subpart Kb and the HON, a gap area is the sum of a series of smaller gaps of varying widths (e.g. a gap may have 1/8" gaps at the edges, 1/4", 3/8", or 1/2" in the middle of a single long gap. Each segment is documented, and the areas of each of the segments are summed. Under NESHAP Subpart WW, the smallest and the largest gap width is determined within the single gap. The average of the 2 widths is then multiplied by the total gap length to determine the gap area.

When Mr. Dominguez performs his inspections, he keeps notes in a notepad that he carries with him. He uses the notepad to prepare the inspection report that is submitted as part of the NESHAP Subpart CC Reports. The inspection reports do not specify which regulation is applicable for the tank. Mr. Dominguez categorizes gap shapes as triangular (T) or square (S) when he performs primary and secondary seal gap measurements. If the shape is a square, he calculates the area of the gap = length (L) X width (W). If the shape is a triangle, he calculates area of the gap = [length (L) X width (W)] / 2 (**see AOC # 1**).

Facility Tour

We toured the various tank areas at the facility (for Appendices 4-8 – green tanks are EFR tanks and yellow tanks are IFR tanks. Tanks with no color are fixed roof or pressure tanks).

- West Tank Area (*see Appendix 4*)
- North Center (Wastewater) Area (*see Appendix 5*)
- East Tank Area (*see Appendix 6*)
- South Tank Area (*see Appendix 7*)
- Center Tank Area (*see Appendix 8*)

James observed tanks and other equipment with the FLIR infrared GF320 camera to determine if any visible hydrocarbon emissions could be detected, which could indicate potential benzene sources. If he observed emissions, he recorded his observations. Below is a cross-reference table of location area, equipment, photos, and videos:

Table 1 – Cross-reference Table

Area	Equipment	Tank Type	Permitted Contents*	Capacity (barrels)	Photo #	Video #
West Tank	T-57	EFR	Naphtha	50,400	1-6	
	Control Room (for T-57 feed)				23	
West Tank	T-737	EFR	Sour Water	20,000	63-66	
West Tank	SRU #2 DOR component 2720				60-62	32
North Center	API Separator		Wastewater		19-22	2-7
North Center	Carbon Canisters				20, 67-69	
North Center	Sump Lift Station (near API Separator)		Wastewater		70-71	33-34
North Center	Bundle Cleaning Area		Wastewater		76	
North Center	New Sump		Wastewater		72, 74	35-36
North Center	New Carbon Canisters				73, 75	
North Center	T-49	Fixed	Slop oil	667	16-18	
	FLM Sample Pt. 7				24-25	
East Tank	T-11	IFR	Gasolines	32,600	26-28, 31	8
East Tank	T-12	IFR	Gasolines	32,300	26, 29, 30	9
East Tank	T-108	IFR	Gasolines	22,900	32, 35	10, 13
East Tank	T-109	IFR	Gasolines	22,300	34, 36	12
East Tank	T-401	EFR	Gasolines	53,000	37-42	14-19
East Tank	T-401 Base	EFR			56-59	28-31
East Tank	#3 Blending Pit				43-44	
East Tank	T-415	IFR	Gasolines	29,900	33	11
East Tank	T-437	EFR	Crude Oil	85,000	46	
East Tank	T-1225	EFR	Naphtha	100,000	45-51	20-22
South Tank	T-124	IFR	Gasolines	6,200	15	1
South Tank	T-417	IFR	Gasolines	9,300	14, 55	27
South Tank	T-431	Fixed	Distillates	56,500	52	23
South Tank	T-432	Fixed	Distillates	55,000	53	24-25

Area	Equipment	Tank Type	Permitted Contents*	Capacity (barrels)	Photo #	Video #
South Tank	T-434	Fixed	Distillates	78,400	54	26
	Y-11 Cooling Tower				7-13	

*HollyFrontier provided a Tank List with actual contents at the time of the inspection (*see CBI Appendix B*).

T-57 Tank

T-57 tank was originally built in 1955. HollyFrontier replaced the floating roof and put the tank into light naphtha service on February 12, 2012. HollyFrontier provided the construction drawings for the new floating roof (*see CBI Appendix C*) which had the latest revision date of October 25, 2011. The drawings included the primary mechanical shoe seal but did not include the secondary seal that the tank currently has installed (*see AOC # 2*).

At the time of the inspection, I observed that the tank level was 8' - 9/16". James noted the vacuum breaker sock that was installed to control benzene emissions was damaged (*see Appendix 1, photo 2*). During the September 9, 2019 call with HollyFrontier, I asked at what level does the vacuum breaker engage or open on T-57. HollyFrontier stated that the vacuum breaker opens at 8.5 feet. The drawings for the T-57 bleeder vent, aka vacuum breaker, requires a 12-foot pipe and a notation to "field determine" the length (*see CBI Appendix C, pg 7 – Drawing 8*) (*see AOC # 3*).

T-737 Tank

T-737 was out of service (OOS) at the time of the inspection. The EFR tank is a sour water tank that was constructed in 2009 and according to the Tank Applicability book, the tank is a Group 2 tank under NESHAP Subpart CC. As a new tank, for overlapping regulations with NESHAP Subpart CC and NSPS Subpart Kb, the facility should follow NSPS Subpart Kb regulations. The annual secondary seal gap measurements have two criteria that must be met for the tank to pass inspection: 1) the accumulated gap area shall not exceed 1 in²/foot of tank diameter and 2) no single gap width shall exceed 1/2". For primary seal gap measurements, 1) the accumulated gap area shall not exceed 10 in²/foot of tank diameter, 2) no tears or holes in the primary seal fabric, and 3) no single gap width shall exceed 1.5". If a seal inspection fails to meet these criteria, the company is required to submit a report within 30 days of the inspection and provide specific information about the seal inspection in the report. The company is to make the repairs or empty the tank within 45 days of the inspection. If the repairs cannot be made within the 45 days, a 30-day extension may be requested if there is no alternate tank space available.

T-737 was the subject of additional FLM sampling (Temporary Sampler TS8 in September 2017) to determine the source of the benzene at nearby sample points. Artesia determined that T-57 was likely the source of the benzene due to the predominant wind direction during the sample period.

HollyFrontier provided the following inspection documents for T-737 (*see CBI Appendix M*):

- January 30, 2019 – [REDACTED]

- March 27, 2019 – [REDACTED]

- July 9, 2019 – [REDACTED]

The Corrective Action Plan Amendment dated July 3, 2019 (*see Appendix 10*) stated that on “March 18, 2019, during routine tank inspections, Navajo identified that Tank 737 (sour water tank) has a damaged seal that may be contributing to detected benzene fence line concentrations on the west side of the refinery.” Artesia did not provide a report detailing the failed inspection within 30 days of the March 18, 2019 inspection as required by NSPS Subpart Kb (*see AOC # 4*).

On July 16, 2019 Artesia provided a Notice of Seal Inspection and Refill (*see Appendix 14*) to NMED for Tanks T-106, T-107, T-451, and T-737. Artesia submitted the report of the failed inspection of T-737 beyond 30 days after the March 27, 2019 inspection (*see AOC # 4*).

In the July 3, 2019 Corrective Action Plan Amendment, Artesia stated that cleaning and repair has required more than 45 days to complete. Artesia did not request a 30-day extension. Artesia’s letter did not detail the exact date when the tank was emptied, but if the June 16, 2019 roof landing date is conservatively used as the emptied date, that is 90 days after the March 18, 2019 inspection (*see AOC # 5*).

Leak Detection and Repair (LDAR) – Delay of Repair (DOR) Components

We asked for the current DOR list (*see Appendix 23*). One of the components, a 3/4” valve (Unit 30, Tag # 2720) had been on the DOR list since May 13, 2009. Since the LDAR programs under the Refinery Consent Decree Initiative requires companies to continue to monitor DOR components, I asked for the monitoring history to review. The history for Unit 30’s Tag # 2720 (*see Appendix 24*) noted that the valve has recorded readings as high as 127,700 ppm on July 26, 2017, and 500,000 ppm on April 20, 2018 (*see AOC # 6*). At the time of the inspection, James observed with the FLIR camera visible emissions from the plug (*see Appendix 2 - Video 32, Appendix 1 – Photo 60-62*).

API Separator and Adjacent Sump Lift Station

Artesia has an aboveground API separator (*see Appendix 1 - Photos 19-22*) in its wastewater unit that is comprised of a west separator tank (D-0829) and an east separator tank (D-0830) with a total capacity of 1,200 gallons/minute (gpm). The aboveground API Separator is subject to NSPS Subpart QQQ and emissions from the separator are permitted (*see Appendix 13*) to be controlled by a carbon canister system (D-808 and D-809) (*see Appendix 1 – Photos 20, 67-69*), referred to as the Old API Canisters by the facility.

Under NSPS Subpart QQQ at 40 C.F.R. § 60.692-3 Standards: Oil-Water Separators, each oil-water separator tank shall be equipped with a fixed roof installed to completely cover the separator tank. Roof seals, access door, and other opening shall be checked visually initially and semiannually thereafter to

ensure no cracks or gaps occur and that access doors and other openings are closed and gasketed properly. Oil-water separator tanks with a design capacity to treat more than 250 gpm of refinery wastewater shall also be equipped and operated with a closed vent system and control device. Standards for closed vent systems and control devices, specified at 40 C.F.R. § 60.692-5, state that the closed vent system shall be designed and operated with no detectible emissions, as indicated by an instrument reading of < 500 ppm above background, as determined during the initial and semiannual inspections using EPA Method 21. The standards also state that a flow indicator shall be installed on a vent stream to a control device to ensure that the vapors are being routed to the device. Monitoring for a carbon adsorber control using carbon canisters, as specified at 40 C.F.R. § 60.695, requires the facility to monitor the exhaust vent stream on a regular basis to detect breakthrough.

The API Separator roof has a gasket to seal the roof to the separator tank, and I observed that the clamps holding the roof were spaced closer together on the north end as compared to the south end. Using the FLIR infrared camera, James observed visible hydrocarbon emissions at several locations on both the west and east separator tanks of the API separator (*see Appendix 2 – Videos 2-7*). I asked Mr. Denton if they monitor the API Separator gasket under their LDAR program. He stated that they only inspect it for visible gaps as required by NSPS Subpart QQQ.

Artesia uses their LDAR contractor, Dexter, to perform daily monitoring of the U.S. Filter Westates Carbon Canister system (or the Old API Canister system) to detect breakthrough. Artesia previously performed the monitoring weekly but increased the frequency to daily. We observed the Dexter contractor monitor the carbon canisters, beginning at the outlet of the second (or lag) canister, progressing to between the canisters, then to the inlet of the first (or lead) canister. The following are the results of the monitoring:

• Background	Minimum: 4 ppm	Maximum: 7 ppm
• Lead canister	Inlet: 286 ppm	Outlet: 4 ppm
• Lag canister	Inlet: 4 ppm	Outlet: 3 ppm

I asked Mr. Smalts when the facility last changed out the carbon in the canisters and he replied, “Never.” He said they had reviewed records and could not locate when Artesia had purchased carbon to replace the old carbon. I asked if they had flow through the system, and he replied that they must have since the numbers got lower from the inlet to the outlet. James asked the Dexter contractor to monitor the edge of the API roof where he had observed hydrocarbon emissions with the FLIR camera. Using the TVA monitoring instrument, Dexter measured a concentration of 1,300 ppm.

I reviewed the P&ID drawings for the API Separator (*see CBI Appendix N*) to determine if Artesia had designed and operated the closed vent system with a flow indicator. I could not locate one on the vent line to the carbon canisters (*see AOC # 7*).

Just north of the aboveground API Separator was a sump lift station. I observed a lot of sealant around each of the two access hatches (see Appendix 1 – Photos 70-71). James observed the hatches with the FLIR camera and saw visible hydrocarbon emissions (*see Appendix 2 – Videos 33-34*) (*see AOC # 8*).

Bundle Cleaning Area

We looked at the bundle cleaning area where heat exchanger tube bundles are cleaned. The area slopes and the water routes to the wastewater system. The vacuum trucks that collect spills throughout the facility empty their trucks at this area. We observed a lot of oil staining at the junction box adjacent to the cleaning area (*see Appendix 1, Photo 76*).

New Stormwater Lift Station and Carbon Canister System

The facility provided records of daily carbon canister monitoring (*see Appendices 25-26*), and the refinery is monitoring a second canister system (D-8000 and D-8001) (*see Appendix 1 – Photos 73 and 75*). Artesia said it was installed in approximately 2012 (*see CBI Appendix O*) to control emissions from the new stormwater lift station (T-0846) (*see Appendix 1 – Photos 72 and 74*). Artesia designed and installed the equipment as part of a project to separate stormwater and prevent wastewater upset, surge flows, and air emissions. The project does include an oil skimmer. The facility's current permit does not show the new carbon canister system which also appears to be subject to NSPS Subpart QQQ (*see AOC # 9*).

James observed the hatches on the stormwater lift station with the FLIR camera and noted hydrocarbon emissions from two access hatches (*see Appendix 2 – Videos 35-36*) (*see AOC # 8*).

When I asked when the carbon was last changed on the new system, Artesia representatives stated that since installation, they have not had breakthrough which would require replacement of the carbon. I reviewed the 2017-2019 daily monitoring data, and the inlet concentration was usually well below 50 ppm. In May 2018 (*see Appendix 25*) the concentration was 22,000 ppm and after that the concentration ranged typically from 2,000 to 6,000 ppm. In January 2019 (*see Appendix 26*), I noted a concentration of 37,916 ppm. In March 2019, I saw 20,100 ppm. The concentrations never returned to the pre-May 2018 levels. I later reviewed the P&ID for the new canister system (*see CBI Appendix N*) and could not locate a flow indicator as required by NSPS Subpart QQQ (*see AOC # 7*).

T-49 Slop Oil Tank – NESHAP Subpart FF - Benzene Waste Organic NESHAP (BWON) Sampling

I asked Artesia for the End of Line (EOL) Sampling Plan required by the BWON requirements under the 2002 Refinery Consent Decree. The facility provided the February 6, 2003 plan, to which EPA provided conditional approval in a letter dated January 23, 2004, and the March 31, 2004 plan (*see Appendix 27*), which has never been approved by EPA.

The 2004 plan listed seven (7) sample points:

Table 2 – EOL Sample Points

Sample Point	Description	Consent Decree Reports*
S-1	Oil from Surge Tank after Wastewater API	
S-2	Oil from Surge Tank after Alky API	Artesia made changes to the wastewater system and the slop oil from the Alky API is diverted through the Wastewater API.**

Sample Point	Description	Consent Decree Reports*
S-3	Combined water lines from Wastewater and Alky API to Surge/Biological Treatment Tanks	
S-4	Sludge after Contractor Centrifuge/ Heating System – product is cement kiln fuel	Artesia generated no sludge from 1Q 2016 – 1Q 2019 except for 4Q 2017 (<i>see Appendix 30</i>)***
S-5	Aqueous waste from T-40 Caustic Tank	
S-6	Aqueous waste from T-41 Caustic Tank	Artesia has taken T-41 OOS permanently. Last sampling performed 5/9/2019
S-7	Skimmed hydrocarbon common line from T-40 and T-41 Caustic Tanks	Samples have not been taken. Comments state that hydrocarbon layer was between the sample point draws on the tank.

*Information on sampling is listed in Attachment 3 of the quarterly reports. The report generated for the 2Q 2019 (*see Appendix 32*) did not have the Attachment 3 included in the report.

**At the time of the inspection, Mr. Denton stated that the facility no longer has an Alky API.

***Sample Point S-4 is for shipments of sludge after a contractor centrifuge/heating system. I requested the manifests for shipments for 2017 and 2018. Artesia provided a 15-page document (*see Appendix 28*) that detailed fifteen (15) shipments of sewer sludge to US Ecology in Robstown, TX from March 18, 2019 through May 15, 2019. Artesia did not provide a manifest for the generated sludge reported in the 4Q 2017 Consent Decree Report and did not include the EOL sampling records in the Consent Decree Quarterly Reports for 4Q 2017, 1Q 2019, and 2Q 2019 (*see Appendices 30-32 respectively*) (*see AOC # 10*).

Artesia did not report any sludge waste for Sample Point S-4 in the 1Q 2019 Consent Decree Report (*see Appendix 31*), yet Artesia provided five manifests for March 2019. The calculation for Sample Point S-3 indicated the daily volume to the wastewater tanks was consistently 720,000 gal/day in every Consent Decree Quarterly Report since 1Q 2016 equivalent to 500 gpm. The wastewater system is rated at 1,200 gpm (*see AOC # 11*).

We observed the NESHAP Subpart FF sampling that is performed at EOL Sampling Point S-3 which is the water phase from T-49 Slop Oil tank. T-49 receives material from two (2) sources: 1) oil from the aboveground API separator and 2) a stream that resulted from the 2012 improvements to the wastewater treatment system. Artesia uses a contractor, Aqua Microbics, for their NESHAP Subpart FF sampling.

The Consent Decree (*see Appendix 29*) requires that if changes in processes, operations, or other factors lead Navajo (Artesia) to conclude that the sampling locations no longer provide an accurate measure of the EOL benzene quantity, the company shall submit a revised plan to EPA for approval. The wastewater improvements from 2012 were not a part of the original EOL Sampling Plan and Sample Point S-2 was

modified. Artesia failed to submit a revised EOL Sampling Plan as required by the Consent Decree (*see AOC # 21*).

Visible Hydrocarbon Emissions from Tanks Observed with FLIR Camera

James noted visible hydrocarbon emissions when looking at the following tanks (refer to Table 1 for photos/videos):

- IFR tanks T-11, T-12, T-108, T-109, T-415, T-124, and T-417.
 - T-124 and T-417 have reported Maximum True Vapor Pressure (Max TVP) > 11.0 pounds per square inch absolute (psia).
- EFR tanks T-401, T-437, and T-1225.
 - T-401 and T-1225 had water on top of the floating roof. T-401's roof did not appear to be floating completely on the liquid surface. The roof was tilted approximately one foot out of level.
- Fixed Roof tanks T-431, T-432, T-434.
 - The Title V permit lists these tanks as storing low vapor pressure material.

The presence of visible hydrocarbon emissions with the FLIR camera warrant a review of the actual conditions and operation to ensure the tanks are operating within permit limits (*see AOC # 12*).

T-401 Emissions at the bottom of the tank

The NEIC inspectors recorded benzene emissions near T-401 using the GMAP, and they observed and recorded hydrocarbon emissions from the base of the tank when using a FLIR camera to survey the area to locate the source of the benzene. They reported this to the field group, and we walked the circumference of T-401 with a FLIR camera (*see Appendix 2 – Videos 28-31*) and an MSA Sirius 4-gas meter with a photoionization detector (PID). We observed that the tank had a second floor that was installed. Mr. Denton explained that they had left the old floor in place, put a layer of compacted sand on top, and then installed the new floor on the sand layer. We also observed some small piping from the sand layer and below the original floor. Mr. Denton explained that the piping was a Praxair monitoring system used to detect leaks in the tank floor. The company can put a tracer chemical into the tank's contents, then monitor at the sample piping for the tracer chemical.

The emissions we observed using the FLIR did not appear to be emanating from the Praxair monitoring points. The following are the main areas where we observed issues:

- On the north side of the tank, I detected 400 ppm VOCs.
- At the water draw and roof drain on the southwest side, James observed emissions and an active drip from the water draw. The operator tightened all of the valves associated with the piping, but the leaks continued. I detected 360 ppm VOCs at the water draw.
- At the south-southeast side (under the stairs), I detected 290 ppm VOCs.
- On the east side and the left side of the manway, we observed a large stained area on the gravel. I detected 730 ppm VOCs and the LEL meter detected 13% LEL, calibrated to methane.

Y-11 and Y-12 Cooling Towers

Artesia has Y-1, Y-2, Y-8, Y-11, and Y-12 Cooling Towers that are subject to NESHAP Subpart CC which requires monthly sampling of Heat Exchange Systems using the modified El Paso Method to detect leaks of hydrocarbons into the cooling water. The leak action level is defined as a total strippable hydrocarbon

concentration (as methane) in the stripping gas of 6.2 ppmv. The results of the sampling are included in the NESHAP Subpart CC Semi-annual Reports.

We observed the monthly sampling for Cooling Tower (C/T) Y-11 (*see Appendix 1 – Photos 7-13*). I reviewed the NESHAP CC Reports and noted the following sampling in which the monitoring detected a leak:

Table 3 – Heat Exchange System Sampling

Cooling Tower	Sample Date	FID concentration (ppmv)	Cooling Tower Circulation Rate (gpm)	Emission Rate (lb/hr)	Title V Permit Limit - Table 106.H (lb/hr)
Y-8	5/16/18	31.40	12,500	2.5418	6.5
Y-12	2/26/18	13.43	10,000	0.9043	0.4
	2/28/18	8.81	10,000	0.5992	0.4
	3/1/18	12.46	10,000	0.8444	0.4
	3/6/18	8.74	10,000	0.5926	0.4
	3/9/18	5.34	10,000	0.3507	0.4
	3/27/18	13.87	10,000	0.9331	0.4
	4/2/18	15.00	10,000	0.9509	0.4
	4/3/18	23.35	10,000	1.5203	0.4
	4/19/18	30.48	10,000	1.9873	0.4
	5/7/18	108.50*	10,000	6.7290	0.4
	5/16/18	33.95	10,000	2.1823	0.4
	6/22/18	58.72	10,000	3.7182	0.4
	7/12/18	35.34	10,000	2.2264	0.4
	8/6/18	19.22	10,000	1.2279	0.4
	9/20/18	27.88	10,000	1.8123	0.4
	10/25/18	25.15	10,000	1.4329	0.4
	11/26/18	60.24	10,000	4.1033	0.4
	12/28/18	36.36	10,000	2.5644	0.4
	1/9/19	42.40	10,000	3.0143	0.4

Yellow-highlighted cells are over the permitted emission rate.

*The 2018 Emission Inventory (EI) calculation data did not use the highest leak (108.5 ppmv) for May 2018. They used the only other May monitoring (33.95 ppmv). All of the other months that had multiple monitoring, the EI calculation data reflected the higher/highest of each month (*see AOC # 13*).

Artesia had several leaks in Y-12 Cooling Tower beginning in February 2018 and one in Y-8 in May 2018. According to the facility, if they detect a leak and sample each of the HAP-containing heat exchangers, and none are the source of the leak, that is all they are required to do. The leak that started March 27, 2018 has never dropped below the leak definition of 6.2 ppmv through the January 9, 2019 monitoring.

The contractor, Dexter, is not recording the water circulation rate of the C/T at the time of sampling, but using the permitted water circulation rate, the VOC emissions have exceeded the permitted emission rate in Title V Permit P051R2 (*see AOC # 14*). Artesia did not report these permit rate exceedances in its Title V Annual Compliance Certification Deviation Reports (*see AOC # 15*).

Table 4 – Cooling Tower Permit Limit Exceedance - VOCs

C/T	Title V Permit Limit - Table 106.H (tpy)	2016 EI (tpy)	2017 EI (tpy)	2018 EI (tpy)
Y-1	7.9	0.230	0.215	0.028
Y-2	7.9	0.150	0.255	0.029
Y-8	28.3	7.634	0.235	0.964
Y-11	5.5	11.573	2.359	0.314
Y-12	1.8	39.616	5.356	8.168

Yellow-highlighted cells are permit limit exceedances.

The Artesia Refinery exceeded their permitted VOC emission limit in 2016 for the Y-11 C/T and in 2016-2018 for the Y-12 C/T (*see AOC # 16*).

The refinery did not report the Y-11 and Y-12 VOC permit exceedances in its Title V Annual Compliance Certifications (*see AOC # 15*).

Emission Inventory

According to Mr. Smalts, Artesia contracts with Leidos to prepare their annual EI required by NMED. The vapor pressure and chemical speciation of HAPs in the various refinery products used for calculating tank emissions is detailed in the Chemicals tab in the Tank Calcs spreadsheet (*see CBI Appendices E, G, I, K*) for each year's Emission Inventory (EI). Most of the sources of the vapor pressure and speciation seemed to be from sources such as AP-42 or other technical sources.

During the onsite inspection, we had a conference call with the primary Leidos employees who work on the project: Ms. Kirsten Bates, a Senior Environmental Engineer, and Mr. John Vierow, a Senior Chemical Engineer. Leidos began doing EI and other project for Artesia since the reporting year 2016. Ms. Bates visits the refinery each year to collect the data needed to prepare the EI, Mr. Vierow prepares the EI and enters it in the NMED website, and Artesia submits it. We asked if the chemical speciations were from actual sampling of materials in tanks at Artesia, and Mr. Vierow said he didn't know. He stated that most of the speciations were historic from prior to 2016. We asked if the speciations were from American Petroleum Institute (API) or AP-42 tables, and Mr. Vierow stated that AP-42 doesn't typically have speciations. He had not compared the products to API. We asked how they know which speciation to use when a product changes since some of the products have very similar names (e.g. naphtha, light cat naphtha, heavy naphtha). Ms. Bates stated that Leidos relies on the facility. According to HollyFrontier, that decision is made by the Environmental Department and Operations at the refinery.

I had obtained the reported 2015 through 2018 EI data from NMED prior to the inspection. I noted that in 2016, Artesia reported no benzene emissions. The benzene emissions for 2017 and 2018 were comparable to those reported in 2015. I asked Ms. Bates and Mr. Vierow why no benzene emissions had been reported for 2016, and they stated that they would need to look at their records. The Toxics Release Inventory data had 1,900 lbs emitted from stacks and 430 lbs emitted as fugitives.

I asked if Leidos was aware of the FLM monitoring for benzene. Mr. Vierow stated he was not very aware of it, but Ms. Bates was aware of it. I asked if the results of the FLM had been incorporated into the EI data, and Ms. Bates stated that she didn't believe it had been.

Following the conference call with Leidos, we interviewed Ms. Jo Lynn Schneider, Laboratory Manager at the Artesia Refinery. She stated that they test the blend product tanks regularly for vapor pressure, gravity, and detailed hydrocarbon analysis (DHA). Recently they sampled field tanks due to sulfur issues. The data is stored in the LIMS system. Typical methods used at Artesia are as follows:

- Modified ASTM Method D3606 – Benzene. This modified method was developed by Artesia to shorten the test time to 5 minutes duration since they analyze a large number of samples.
- ASTM Method D3710 – Simulated distillation of petroleum products
- ASTM Method D5134 – DHA
- ASTM Method D5453 – Total sulfur content
- ASTM Method D4052 – Density, relative density, and API Gravity

Ms. Schneider stated that the lab tests the overhead stream from Unit 13 which feeds T-57. Also, she stated that each Thursday they sample the feed from T-57 to Unit 20 for benzene, sulfur, DHA, and API gravity.

In the 2018 Tank Calcs spreadsheet, there is a notation for Isom Feed that it was changed per August 2018 lab tests for T-57. The notation stated that the molecular weight was changed to gasoline. We asked for those results and any other testing of the material in T-57. Subsequent to the inspection, we received information of testing of Isom Feed for various dates from August 10, 2018 through September 11, 2019. Only the August 10, 2018 analysis indicated it was from T-57 since the name of the sample was "57TK IF." All of the other samples were named "ISOM FD," "ISOMFEED," or "IF," but T-57 was filled with naphtha bottoms on September 7, 2019, and the VP remained the same. It is not clear where Artesia obtained the samples .

For T-57 HollyFrontier has called the material stored since 2012 until late 2019 a "light naphtha stream" in its Corrective Action letters. The 2018 EI used the product titled "Isom Feed" for emission calculations. The Chemicals tab for Isom Feed shows HAPs, but the Tank Emission Summary tab doesn't indicate HAP emissions from T-57. This is not accurate since the light naphtha stream is the feed for the BenFree unit which removes the benzene from the naphtha. Also, the speciation for Desalter Water doesn't list any benzene. Desalter water is typically a significant source of benzene. The tank that does store desalter water is listed as storing Sour Water in the Tank Emission Summary. This material doesn't have HAP emissions shown on the Chemicals tab. Artesia stated in the July 3, 2019 Amended Corrective

Action Plan that T-737 may be contributing to benzene fence-line concentrations. The EI Tank Calcs files do not have any HAP speciation for T-737 Sour Water tank.

I reviewed the tank landing information for the four years of EI calculations:

- 2015 tank landings are on the Tank SSM tab of the EI file *(see CBI Appendix D)*. Landings or Idle/degas loss (13 tanks): T-402, T-835, T-79, T-412, T-402, T-108, T-412, T-109, T-415, T-450, T-12, T-106, T-108
- 2016 tank landings are on the Tank SSM tab of the EI file *(see CBI Appendix F)*. Landing (2 tanks): T-835 (diesel 0.02 lbs), T-56 (naphtha 57 lbs)
- 2017 tank landings are on the Tank SSM tab of the EI file *(see CBI Appendix H)*. Notes on the spreadsheet state that the data source used for 2016 is no longer maintained by the refinery, so the contractor reviewed individual event files and found no landing events. The contractor verified this with Ms. Staci Hammond.
- 2018 EI file *(see CBI Appendix J)* did not have a Tank SSM tab. I am not able to determine if Artesia included tank landing data in the EI reporting.

The accuracy of the reported emissions to the EI database is of concern *(see AOC # 17)*.

As part of the Emission Inventory preparation, the calculated emissions are compared to permitted limits and limits to operating conditions (e.g. temperature, maximum true vapor pressure) and the comparison is reflected as a percent of the allowable or with a notation "Max Over" if the Max TVP exceeded the limit in the permit, or "Both Over" if the Max TVP and Average TVP exceeded the limit in the permit. The following permit exceedances were noted in the EI and Tank Calcs data:

Table 5 – Emission and Operational Permit Deviations noted in EI files

Year	Category	Description	Actual	Permitted	Actual % of Allowable
2015	Permit Throughput	Sour Water	[REDACTED]	45,051 bbl/yr	[REDACTED]
	Tank Temp – VP	T-107 Max TVP	11.05 psia	11.0 psia	
		T-411 Max TVP	11.05 psia	11.0 psia	
		T-422 Max TVP	0.95 psia	0.5 psia	
		T-423 Max TVP	0.89 psia	0.5 psia	
	EI Summary	Hydrogen Plant Reformer Furnaces NOx	21.43 tpy	18.4 tpy	116%
		Hydrogen Plant Reformer NOx	24.86 tpy	18.5 tpy	134%
2016	Permit Throughput	Distillates	[REDACTED]	55,076,590 bbl/yr**	[REDACTED]
		Sour Water	[REDACTED]	45,051 bbl/yr**	[REDACTED]
	Tank Temp – VP	T-107 Max TVP	11.86 psia	11.0 psia	
		T-411 Max TVP	11.86 psia	11.0 psia	
		T-422 Max TVP	1.04 psia	0.5 psia	
		T-423 Max TVP	1.36 psia	0.5 psia	

Year	Category	Description	Actual	Permitted	Actual % of Allowable
		T-435 Max TVP	11.21 psia	11.0 psia	
		T-437 Max TVP	11.21 psia	11.0 psia	
		T-452 Max TVP	1.91 psia	1.82 psia	
		T-452 Avg TVP	0.82 psia	(blank)	
		T-1225 Max TVP	11.21 psia	11.0 psia	
	SSM SRU2-TGI	SO2	1.76 tpy	0.4 tpy	440%
	SSM Flare Cap	VOC	27.79 tpy	13.2 tpy	211%
		SO2	15.92 tpy	14.9 tpy	107%
	EI Summary	North Flare VOCs	1.06 tpy	0.7 tpy	151%
		South Flare VOCs	0.26 tpy	0.2 tpy	132%
		Alky Flare VOCs	0.26 tpy	0.2 tpy	132%
		Y-11 Cooling Tower VOCs	11.57 tpy	5.5 tpy	210%
		Y-12 Cooling Tower VOCs	39.62 tpy	1.8 tpy	2201%
2017	Permit Throughput	Distillates		55,076,590 bbl/yr**	
		Sour Water		45,051 bbl/yr**	
	Tank Temp-VP	Not in file provided by HollyFrontier although it is referenced in the Tank Temp Entry tab.			
	EI Summary	North Flare VOCs	1.06 tpy	0.7 tpy	151%
		South Flare VOCs	0.26 tpy	0.2 tpy	132%
		Alky Flare VOCs	0.26 tpy	0.2 tpy	132%
		Y-12 Cooling Tower VOCs	5.36 tpy	1.8 tpy	298%
		SRU3 SSM SO ₂	0.72 tpy	0.4 tpy	181%
		SRU2 SSM SO ₂	1.76 tpy	0.4 tpy	440%
		Flare SSM Cap VOCs	27.79 tpy	13.2 tpy	211%
		Flare SSM Cap SO2	15.92 tpy	14.9 tpy	107%
2018	Permit Throughput	Sour Water		45,051 bbl/yr**	
		Distillates		55,076,590 bbl/hr**	
	Tank Emission Summary	Floating Roof Tank VOCs	104.9 tpy	87.6 tpy	119.7%
	Tank Temp – VP	T-49 Max TVP	2.58 psia	1.5 psia	
		T-57 Max Temp	107.8°F *	90°F (ambient)	
		T-57 Max TVP	15.21 psia	11.0 psia	
		T-106 Max TVP	11.38 psia	11.0 psia	
		T-107a Max TVP	14.58 psia	11.0 psia	

Year	Category	Description	Actual	Permitted	Actual % of Allowable
		T-111 Max TVP	19.65 psia	11.0 psia	
		T-124 Max TVP	12.97 psia	11.0 psia	
	El Summary	FUG-RLO- ASPHALT VOC	2.95 tpy	2.9 tpy	102%
		Y-11 Cooling Tower VOC	8.17 tpy	1.8 tpy	454%
		SSM Flare Cap VOC	70.96 tpy	18.3 tpy	538%
		Flares Malfunction Cap SO2	14.43 tpy	10 tpy	144%

* Artesia provided the PI data for T-57, including tank temperature (*see CBI Appendix L*). This data revealed that the maximum tank temperature was [REDACTED].

**The permitted throughput of Sour Water and Distillates was increased to 15,030,000 bbl/yr and 158,185,540 bbl/yr, respectively, with the Permit PSD-NM-0195-M37 issued August 12, 2016 (*see Appendix 21*). The EI consultant continued to use the old limits.

Maximum True Vapor Pressure

The Tank Applicability file also has information about the Max TVP. According to the spreadsheet, Artesia obtained this information from the 2018 Emission Inventory. When a tank operated with more than one product during the year, the applicability of the tank for each operating scenario is denoted with a letter behind the tank name (e.g. T-57a for light naphtha operation and T-57b for heavy naphtha operation). For T-57a, we noted a Max TVP of [REDACTED]. There is a Tank Table tab in the Tanks Applicability file that lists [REDACTED] tanks with a Max TVP > [REDACTED]. T-101B is a tank at the Lovington Refinery. When reviewing each of the tank tabs, I noted an additional tank T-107a. The following table is a list of tanks with a Max TVP > [REDACTED] from the individual tank worksheets in the Tank Applicability file:

Table 6 – Tanks with Max TVP ≥ 11.1 psia

Tank	Max TVP (psia)	Tank Type	Permitted Content	Group
T-57a	[REDACTED]	EFR	Naphtha	1
T-106	[REDACTED]	IFR	Distillates	2*
T-107a	[REDACTED]	IFR	Gasolines	1
T-111	[REDACTED]	IFR	Naphtha	1
T-124	[REDACTED]	IFR	Gasolines	1
T-0411a	[REDACTED]	EFR	Gasolines	1
T-417	[REDACTED]	IFR	Gasolines	1

*T-106 is listed as a Group 2 tank because the HAP weight % is listed as 0 for this product. This tank actually stores desalter water, one of the highest benzene contributors in the NESHA Subpart FF Total Annual Benzene (TAB) Report (*see AOC # 18*).

For NESHAP Subpart CC Group 1 tanks subject to 40 C.F.R. § 63.646 and NESHAP Subpart G, if the Max TVP $\geq$ 11.1 psia, the tank must have a closed vent system with a control device to control emissions. For NESHAP Subpart CC Group 1 tanks subject to 40 C.F.R. § 63.660 and the Max TVP $\geq$ 11.1 psia, NESHAP Subpart CC requires compliance with NESHAP Subpart SS which requires a closed vent system and a control device. Artesia has several tanks that they document in the Tank Applicability file a Max TVP $\geq$ 11.1 psia (see Table 6) and in the EI files (see Table 5) that do not currently have a closed vent system and control device. **(see AOC # 19).**

Tank 49 – Slop Oil Tank Information

T-49 is permitted as a fixed roof tank that is permitted to store moderate vapor pressure material. In the Tank Applicability file, T-49 is described as being a pressure vessel (PRS Roof Type) and exempt from Subpart CC group applicability. In the 2018 Tank Calcs **(see Appendix K)** file for Emission Inventory reporting, T-49 is reflected as a fixed roof tank. T-49 is not included in the Tank List **(see CBI Appendix B)** that was provided as part of the records request during the inspection **(see AOC #20).**

T-451 and T-452 Tank Information

The construction date for T-451 and T-452 is 2015 and each have a capacity of 6,900 bbls. The permit is unclear about the applicability and operation of these tanks. The following table is a history of the applicability and operations to help identify the correct applicability:

Table 7 – T-451 and T-452 history

Title V Permit P051R2M1 (1/22/16) Modification with the renewal is to install 2 new tanks.	Biodiesel Tank	Ethanol Tank
Table 103.C Applicability		NSPS Subpart Kb
Table 106.B(2) EFR Tanks		TK-NEWETHANOL (high VP)
Table 106.C Fixed Roof Tanks	TK-NEWBIODIESEL (low VP)	
Table 106.D Storage Tank Throughput and Temperature Limits	Biodiesel: 949,000 bbl/yr	
PSD-NM-0195-M37 (8/12/16) (see Appendix 21) Tanks constructed as IFR tanks rather than EFR and fixed roof. Added tank ID numbers.		
Table 103.C Applicability	NESHAP Subpart CC	NSPS Subpart Kb
Table 106.B(1) IFR Tanks	T-0451 Biodiesel (high VP)	T-0452 Ethanol (high VP)
Table 106.D Storage Tank Throughput and Temperature Limits	Biodiesel: 949,000 bbl/yr	Ethanol: 142,350 bbl/yr
Tank Applicability spreadsheet	T-0451 Biodiesel IFR Group 2	T-0452 Ethanol IFR Group 2

Title V Permit application (May 2019) (<i>see Appendix 22</i>)			
Table 2-A: Regulated Emission Sources	T-0451 IFR (formerly TK-NEWETHANOL)	T-0452 IFR (formerly TK-NEWBIODIESEL)	
Table 2-L: Tank Data	Installed: 2016 Low VP IFR	Installed: 2016 High VP IFR	
Floating Roof Tank SSM Potential to Emit	Not listed	Not listed	
Tank List (<i>see CBI Appendix B</i>)	Not Listed	Not listed	

Yellow-highlighting is used to document the inconsistency of information from earlier permits, within a permitting action, or from other documents from Artesia.

Artesia has conflicting information about tanks T-49, T-451, and T-452, and in some cases, the tanks are not included in tank inventories (*see AOC # 20*).

Title V Reporting of Permit Deviations

I reviewed the Title V Annual Compliance Certifications (ACC) for the September – August periods ending in August 2016 – 2019 (*see Appendices 17-20*). The permit deviations detailed in the EI files for each year and compiled in Table 2 above, with the exception of the Distillates and Sour Water throughputs for 2016-2018, were not reported in the Deviation Reports that are submitted as part of each ACC (*see AOC # 15*).

At the end of each of the ACC reports are Excess Emission Reports (EER). The 2016 ACC had six (6) EERs from November 2015. Those same EERs are also in the reports for 2017, 2018, and 2019. It is unclear why they continue to be reported.

Closeout Conference

EPA inspectors Debbie Ford, James Haynes, and Richard Helmich and ERG inspector Dan Roper held a closeout conference on Friday, October 4, 2019. Attendees representing the Artesia Refinery were Scott Denton, Ray Smalts, Staci Hammond, Theresa Wheeler, and Parrish Miller. Also, representing the facility via phone were Sucheta Gokhale, Ray Bagherian, HollyFrontier Corporation Counsel, and Tom Shetina, Senior Vice-President Refinery Operations.

I reviewed twenty (20) preliminary Areas of Concern during the close-out conference. Afterward, I received a list of documents requested during the inspection which was color-coded to indicate the documents received and the documents that were still outstanding.

Section III – AREAS OF CONCERN

1. Artesia is not calculating the gap areas correctly for primary and secondary seal gap measurements.
2. Artesia does not maintain a current drawing of T-57 and its floating roof fittings.

3. At the time of the inspection, the tank was below the 8.5' level that the company said triggers the opening of the vacuum breaker.
4. Artesia failed to provide a written report of within 30 days of the March 18 and 27, 2019 failed seal inspections of T-737.
5. Artesia took more than 45 days to empty tank T-737 to repair defects found during inspections on March 18 and 27, 2019.
6. Artesia has left DOR component Tag # 2720 in Unit 30 leaking for over 10 years. LDAR monitoring has detected VOCs as high as 500,000 ppm (50% in atmosphere).
7. Artesia did not design and operate the API Separator and New Stormwater Lift Station closed vent systems and control devices with a flow indicator to ensure that vapors are routed to the carbon canisters.
8. Artesia did not route emissions from the sump lift station near the aboveground API Separator and the New Stormwater Lift Station to the carbon canister systems.
9. Artesia designed and installed new equipment and a closed vent system with carbon canister controls in the wastewater system in 2012 that would be subject to NSPS Subpart QQQ but failed to include this information in their operating permits.
10. Artesia did not include the EOL sampling records for the sewer sludge disposed in 4Q 2017, 1Q 2019, and 2Q 2019 in the Consent Decree Quarterly Reports.
11. Artesia may not be including all information when calculating the quarterly benzene quantity and the estimated annual benzene quantity.
12. Artesia may have unauthorized emissions from some tanks at the facility.
13. The Artesia EI for 2018 did not correctly calculate VOC emissions for Y-12 Cooling Tower.
14. Artesia exceeded the permitted emission rate for the Y-12 Cooling Tower from February – January 2019.
15. Artesia failed to report in Title V Annual Compliance Certifications that the facility had exceeded the permitted VOC emission rate at Y-12 cooling tower, that the facility had exceeded the permitted VOC emission limit for Y-11 Cooling Tower in 2016 and Y-12 Cooling Tower in 2016, 2017, and 2018; and the permit limit exceedances that were detailed in the Emission Inventory data files.
16. Artesia failed to operate the Y-11 Cooling Tower in 2016 and the Y-12 Cooling Tower in 2016-2018 within its permitted annual VOC emission limit.
17. The Emission Inventory reporting may not be accurate. Artesia did not report any benzene emissions for 2016. Artesia did not report benzene emissions from T-57 tank, T-737 Sour Water tank, and the Desalter Water tank. Artesia did not report any emissions that would reflect the elevated benzene emissions detected by the FLM program. Artesia may not be including all of the tank maintenance or tank landing emissions. Artesia doesn't use actual product sampling for calculating emissions from tanks.
18. Artesia did not accurately make group determinations for tanks as required by NESHAP Subpart CC.
19. Artesia has stored materials with maximum true vapor pressures ≥ 11.1 psia in tanks T-57, T-106, T-107, T-111, T-124, T-411, T-417, T-435, T-437, T-1225 that are not controlled by a closed vent system and control device.

20. Artesia provided conflicting information about T-49 (described as a pressure vessel and as a fixed roof tank but not included in the Tank List for the facility), T-451 (originally described as a biodiesel fixed roof tank with low VP material, later as a IFR high VP tank, then low VP, not included in permit application SSM potential to emit tables, not included in the Tank List for the facility), and T-452 (not included in permit application SSM potential to emit tables, not included in the Tank List for the facility).
21. Artesia failed to submit a revised EOL Sampling Plan when improvements were made to the wastewater system in 2012.
22. Artesia did not require inspectors to watch a safety videos or instruct inspectors on basic emergency procedures such as muster points or warning sirens.
23. Artesia is not performing gap measurements of EFR tanks properly for primary seal measurements greater than 1/2" and is not using the proper probes to measure gaps for tanks subject to NESHAP Subpart WW.

Section IV – FOLLOW-UP

Subsequent to the inspection, the outstanding documents were submitted to EPA on October 16, 2019 (HFNA-VOL02-10.16.2019.zip) and October 18, 2019 (HFNA-VOL03-10.18.2019.zip). The documents that were received on October 4, 2019 were re-submitted to EPA on October 25, 2019 (HFNA-VOL01-10.04.2019.zip).

On Friday, October 18, 2019, James Haynes and I held a video conference with HollyFrontier to interview Mr. Omar Dominguez, tank inspector for the Artesia Refinery. Mr. Bagherian participated in the call. Ms. Cheryl Barnett, EPA Office of Regional Counsel, participated in the call for EPA Region 6. At that time, I requested additional records which HollyFrontier provided on October 29, 2019 (HFNA-VOL04-10.29.2019.zip).

HollyFrontier provided records submitted to EPA subsequent to the inspection via Sidley sharefile and documents were Bates stamped.

On October 11, 2019, HollyFrontier submitted a third amendment to the NESHAP Subpart CC Corrective Action Plan (*see Appendix 12*).

Section V – LIST OF APPENDICES

- Appendix 1 – Photo Log – 76 photos taken 10/1-4/2019
- Appendix 2 – Video Log – 36 FLIR videos taken 10/2-4/2019
- Appendix 3 – Inspection sign-in sheet
- Appendix 4 – West Tank Area map
- Appendix 5 – North Center (Wastewater) Area map
- Appendix 6 – East Tank Area map
- Appendix 7 – South Tank Area map
- Appendix 8 – Center Tank Area map

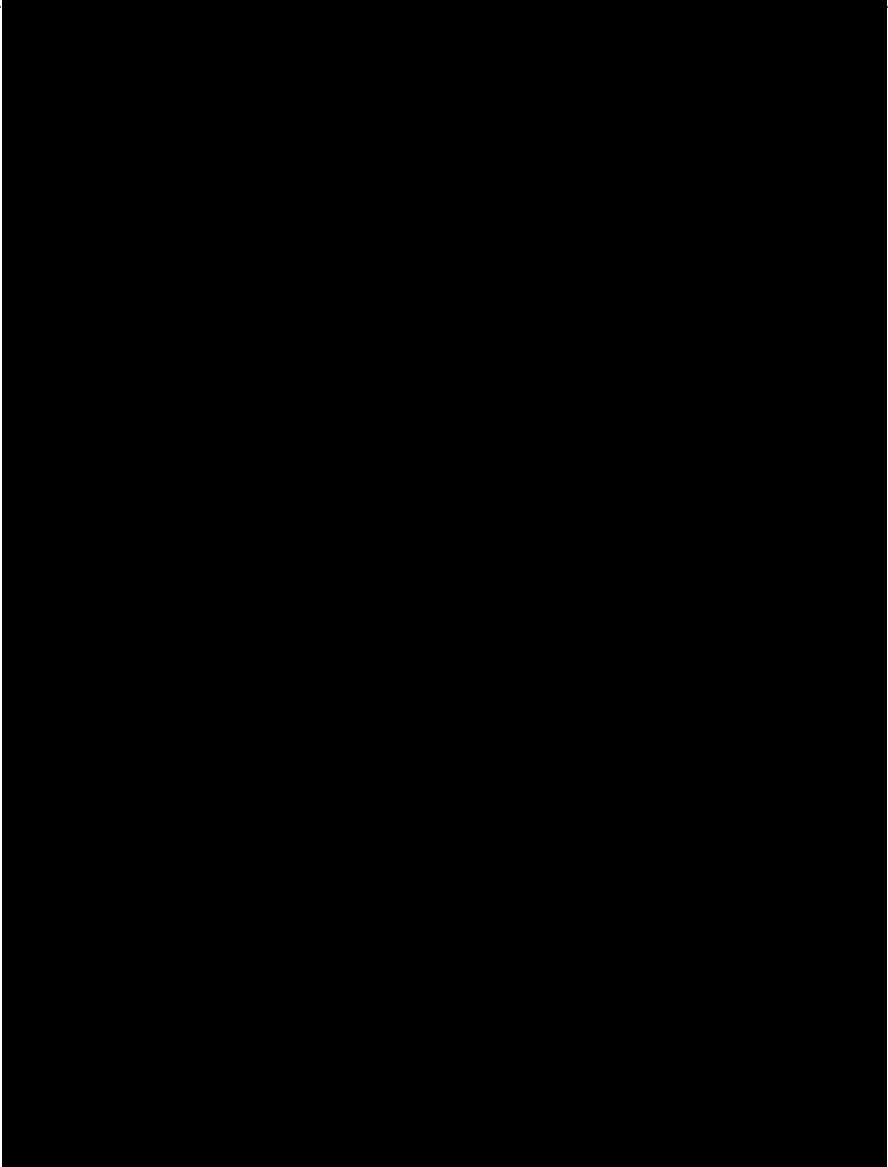
Appendix 9 – Corrective Action Plan dated 5/15/2019
Appendix 10 – Corrective Action Plan Amendment dated 7/3/2019
Appendix 11 – Corrective Action Plan Amendment 2 dated 9/3/2019
Appendix 12 – Corrective Action Plan Amendment 3 dated 10/11/2019
Appendix 13 – Title V Permit P051-R2 issued 5/6/2015, selected pages
Appendix 14 – NESHAP Subpart CC Notice of Seal Inspections dated 7/16/2019
Appendix 15 – NESHAP Subpart CC Notice of 2019 Tank Inspections dated 12/12/2018
Appendix 16 – *(not referenced in the inspection report)*
Appendix 17 – Title V Annual Compliance Certification Aug 2016
Appendix 18 – Title V Annual Compliance Certification Aug 2017
Appendix 19 – Title V Annual Compliance Certification Aug 2018
Appendix 20 – Title V Annual Compliance Certification Aug 2019
Appendix 21 – Permit PSD-NM-0195-M37 issued 8/12/2016, selected pages
Appendix 22 – Title V Permit P051-R3 Application, selected pages
Appendix 23 – Leak Detection and Repair Delay of Repair Report
Appendix 24 – SRU #2 DOR Component 2720 Monitoring History
Appendix 25 – Carbon Canister Daily Monitoring 2018
Appendix 26 – Carbon Canister Daily Monitoring 2019
Appendix 27 – End-of-Line Sampling Plan dated 3/31/2004
Appendix 28 – Sewer Sludge Manifests for March – May 2019
Appendix 29 – Artesia Refinery Consent Decree, selected pages
Appendix 30 – Consent Decree Report for 4Q 2017
Appendix 31 – Consent Decree Report for 1Q 2019
Appendix 32 – Consent Decree Report for 2Q 2019

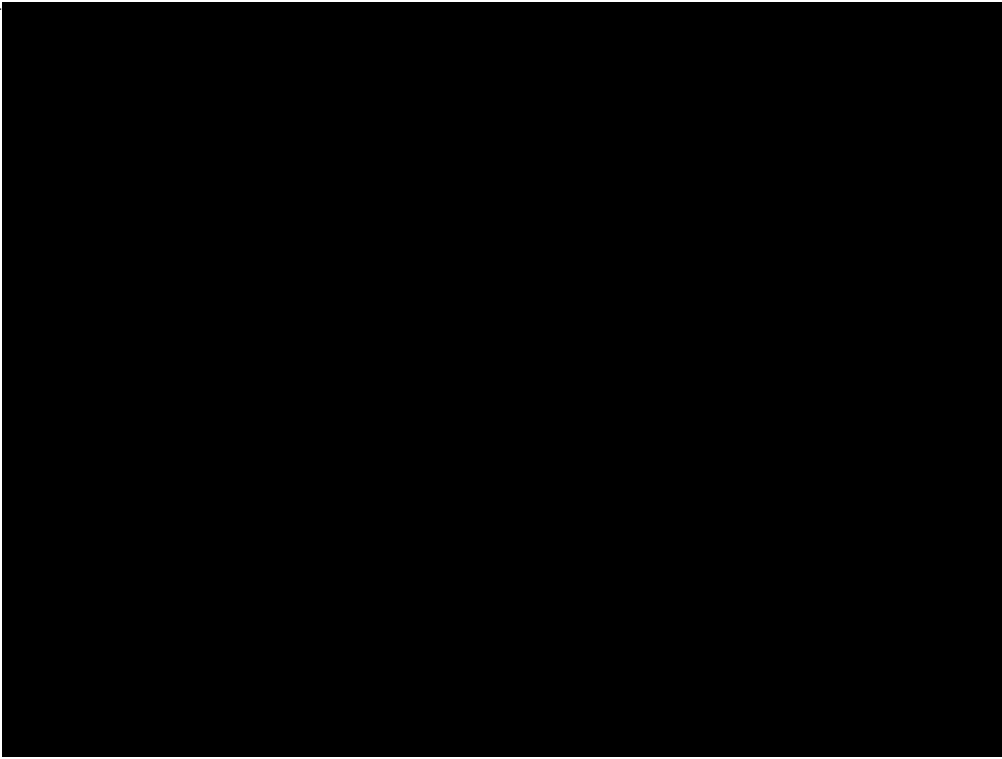
CBI Appendices – Do not publish

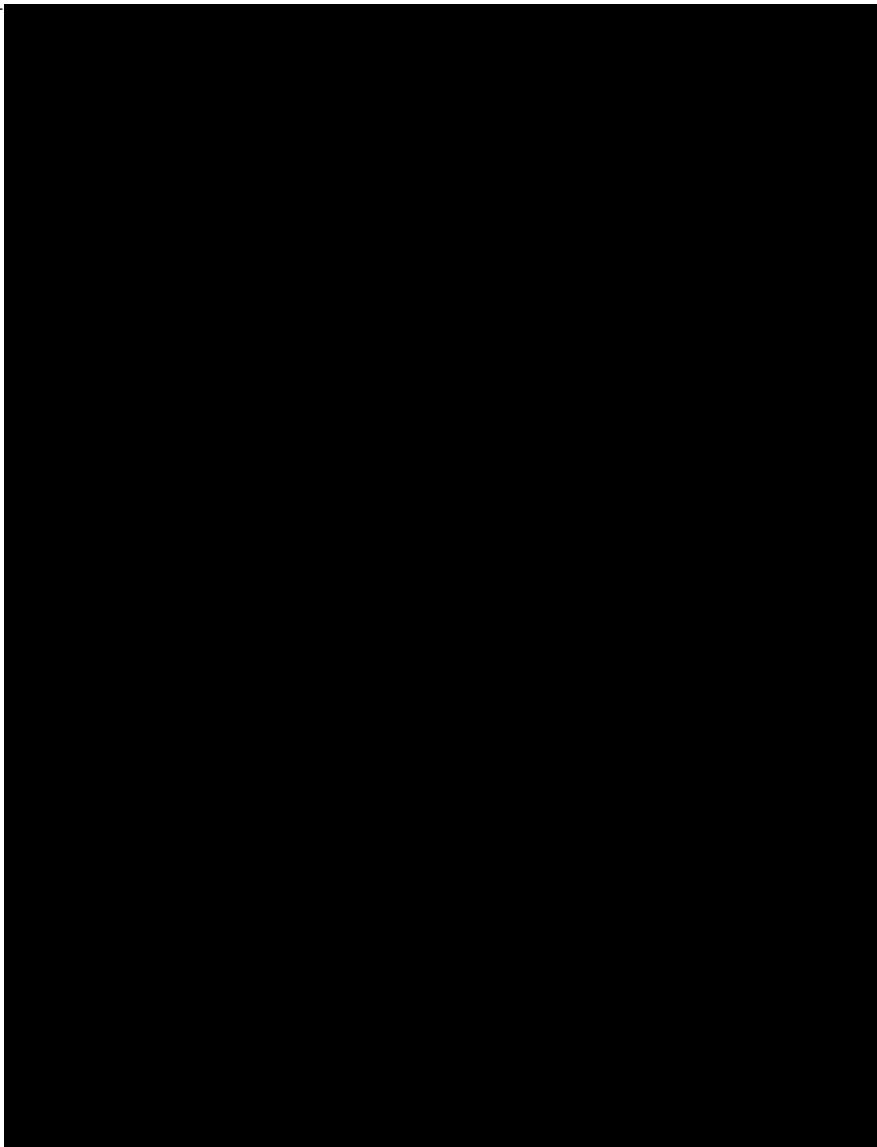
CBI Appendix A – Tank Applicability (HFNA-5934)
CBI Appendix B – Tank List (HFNA-5955)
CBI Appendix C – T-57 Floating roof design (HFNA-6141)
CBI Appendix D – 2015 Artesia EI.xlsx (HFNA-0001)
CBI Appendix E – 2015 Tank Calcs.xls (HFNA-0002)
CBI Appendix F – 2016 Artesia EI.xlsx (HFNA-0003)
CBI Appendix G – 2016 Tank Calcs.xls (HFNA-0004)
CBI Appendix H – 2017 Artesia EI.xlsx (HFNA-0005)
CBI Appendix I – 2017 Tank Calcs.xls (HFNA-0006)
CBI Appendix J – 2018 Artesia EI.xlsx (HFNA-0007)
CBI Appendix K – 2018 Tank Calcs.xlsx (HFNA-0008)
CBI Appendix L – T-57 PI Data (HFNA-6186)
CBI Appendix M – T-737 Inspection Records (HFNA-5949)
CBI Appendix N – Wastewater API drawings (HFNA-6646)
CBI Appendix O – Wastewater system 2012 project (HFNA-6642)

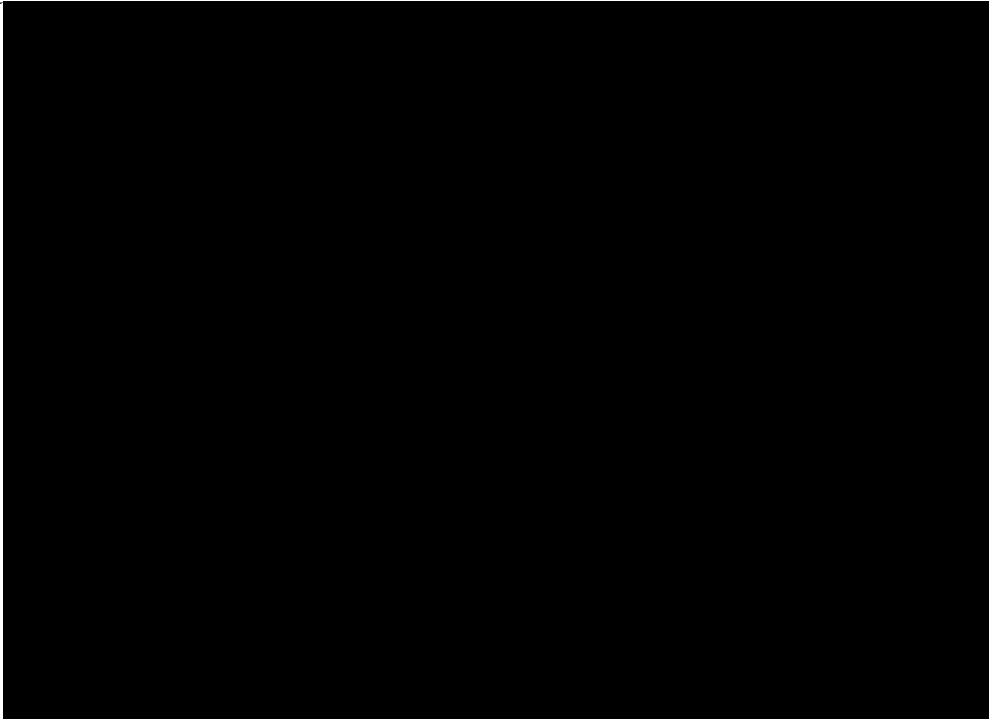
Appendix 1

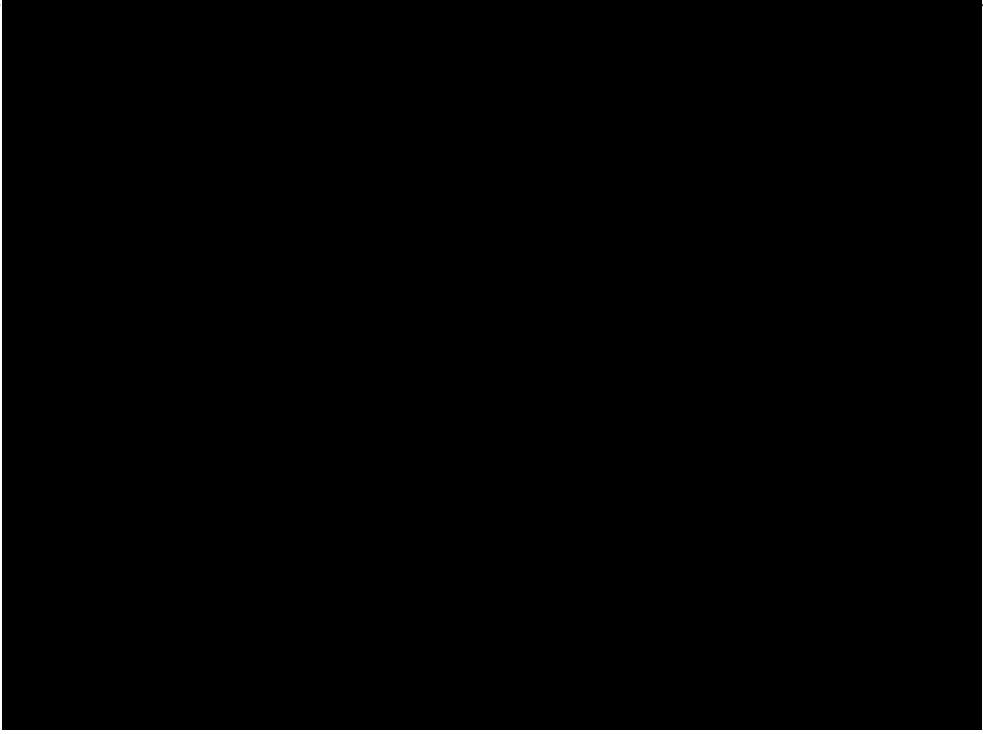
Photograph Log

			
1	DATE/TIME:	10/1/2019	3:26 p.m.
	FILENAME:	DSCN0359-01.jpg	
	DESCRIPTION:	T-57 roof and slotted gauge hatch.	
	TAKEN BY:	James Haynes	

			
2	DATE/TIME:	10/1/2019	3:27 p.m.
	FILENAME:	DSCN0360.jpg	
	DESCRIPTION:	T-57 roof. Note socks on legs. The sock on the vacuum breaker, indicated by the red arrow, was damaged when the roof was landed.	
	TAKEN BY:	James Haynes	

			
3	DATE/TIME:	10/1/2019	3:27 p.m.
	FILENAME:	DSCN0361.jpg	
	DESCRIPTION:	T-57 roof. The bulge in the wall on the pontoon was to allow the automatic gauge cable to pass through the roof deck. At the time of the inspection, the cable was broken.	
	TAKEN BY:	James Haynes	

			
4	DATE/TIME:	10/1/2019	3:28 p.m.
	FILENAME:	DSCN0362.jpg	
	DESCRIPTION:	T-57 roof looking down the tank ladder.	
	TAKEN BY:	James Haynes	

			
5	DATE/TIME:	10/1/2019	3:29 p.m.
	FILENAME:	DSCN0363.jpg	
	DESCRIPTION:	T-57 roof, left side.	
	TAKEN BY:	James Haynes	

			
6	DATE/TIME:	10/1/2019	3:41 p.m.
	FILENAME:	DSCN0364.jpg	
	DESCRIPTION:	T-57 nameplate.	
	TAKEN BY:	James Haynes	



7	DATE/TIME:	10/2/2019	2:18 p.m.
	FILENAME:	DSCN0392.jpg	
	DESCRIPTION:	TVA 1000 and calibration gases for cooling tower sampling.	
	TAKEN BY:	Debbie Ford	



8

DATE/TIME:	10/2/2019	2:21 p.m.
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FILENAME:	DSCN0393.jpg
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DESCRIPTION:	Return line from heat exchangers for CY-11 Cooling Tower.
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TAKEN BY:	Debbie Ford
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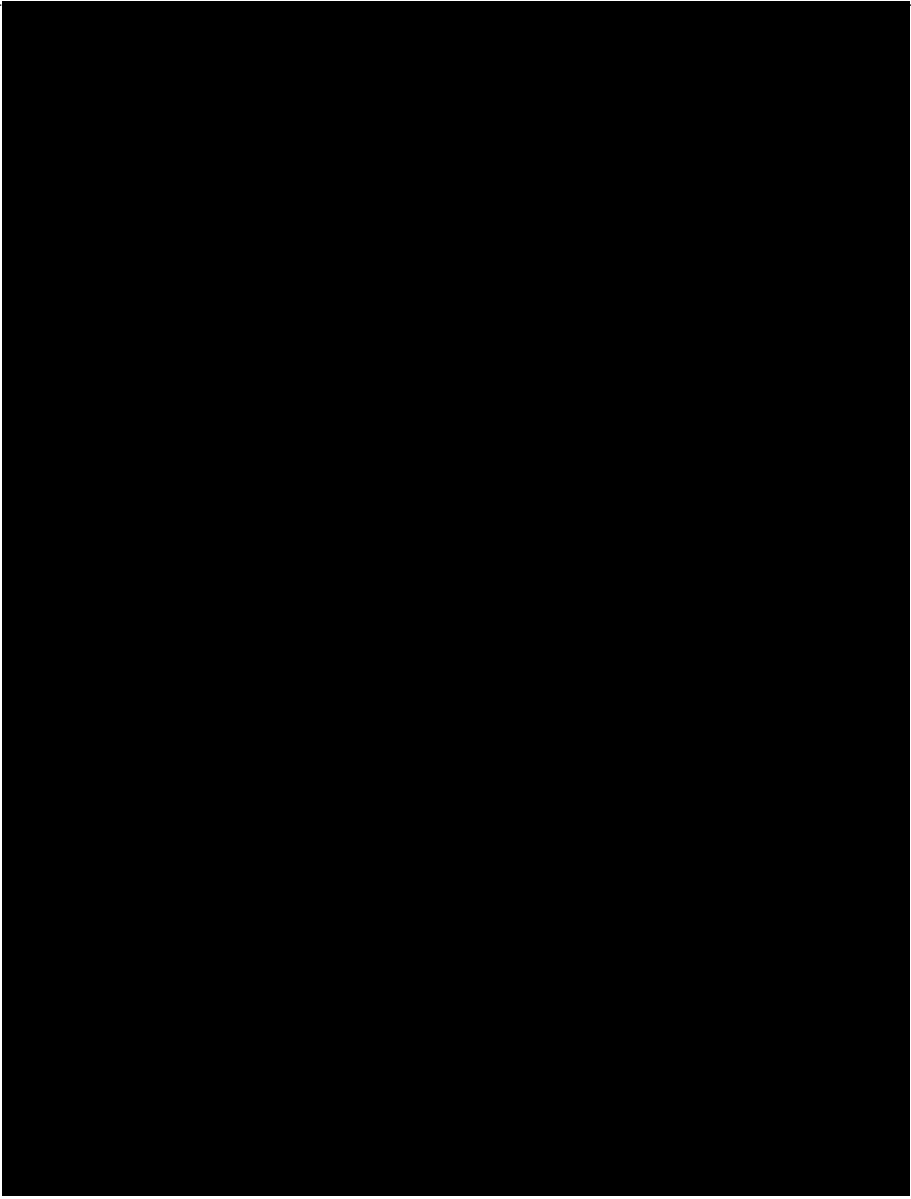
9	DATE/TIME:	10/2/2019	2:22 p.m.
	FILENAME:	DSCN0394.jpg	
	DESCRIPTION:	Sample line being connected to heat exchanger return line for CY-11 Cooling Tower sampling.	
	TAKEN BY:	Debbie Ford	

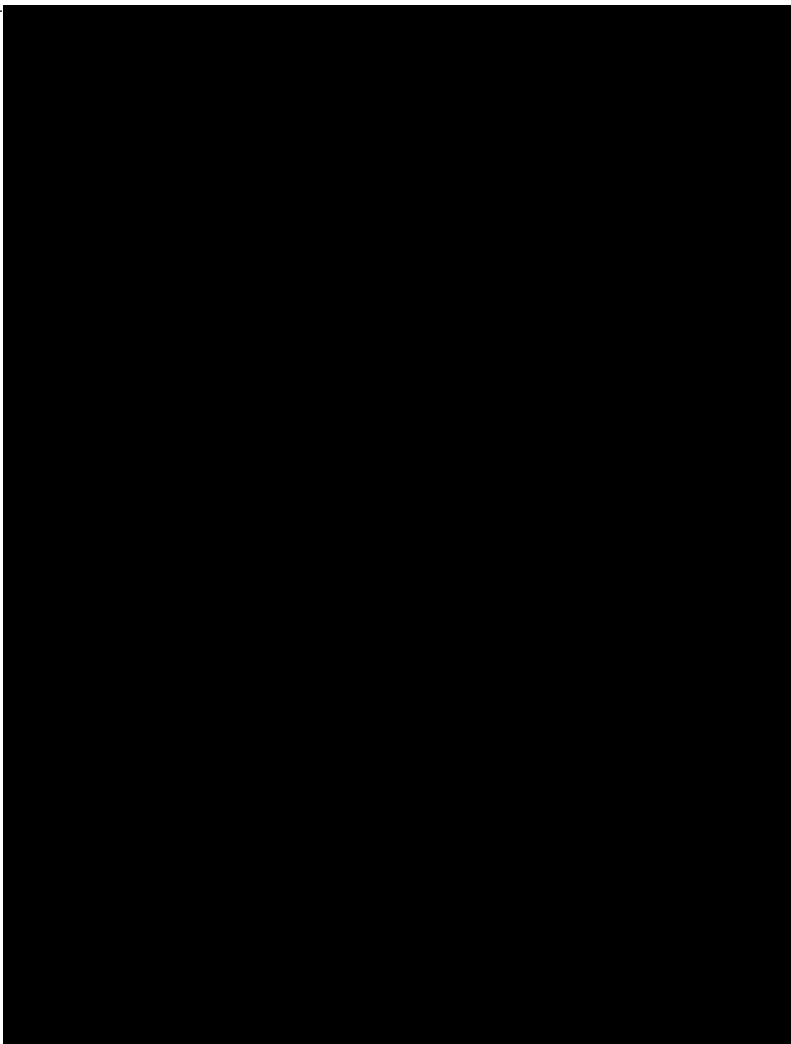


10	DATE/TIME:	10/2/2019	2:55 p.m.
	FILENAME:	DSCN0365.jpg	
	DESCRIPTION:	Sampling apparatus for Modified El Paso Method.	
	TAKEN BY:	James Haynes	



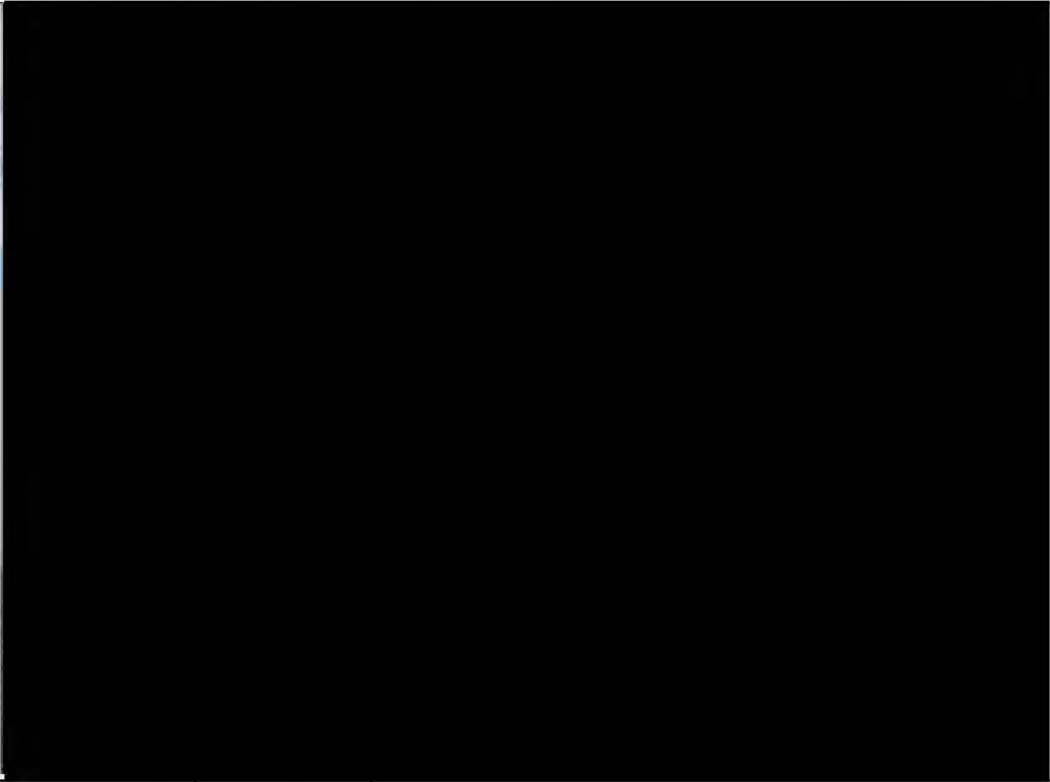
11	DATE/TIME:	10/2/2019	2:56 p.m.
	FILENAME:	DSCN0395-01.jpg	
	DESCRIPTION:	Run #1 for CY-11 Cooling Tower.	
	TAKEN BY:	Debbie Ford	

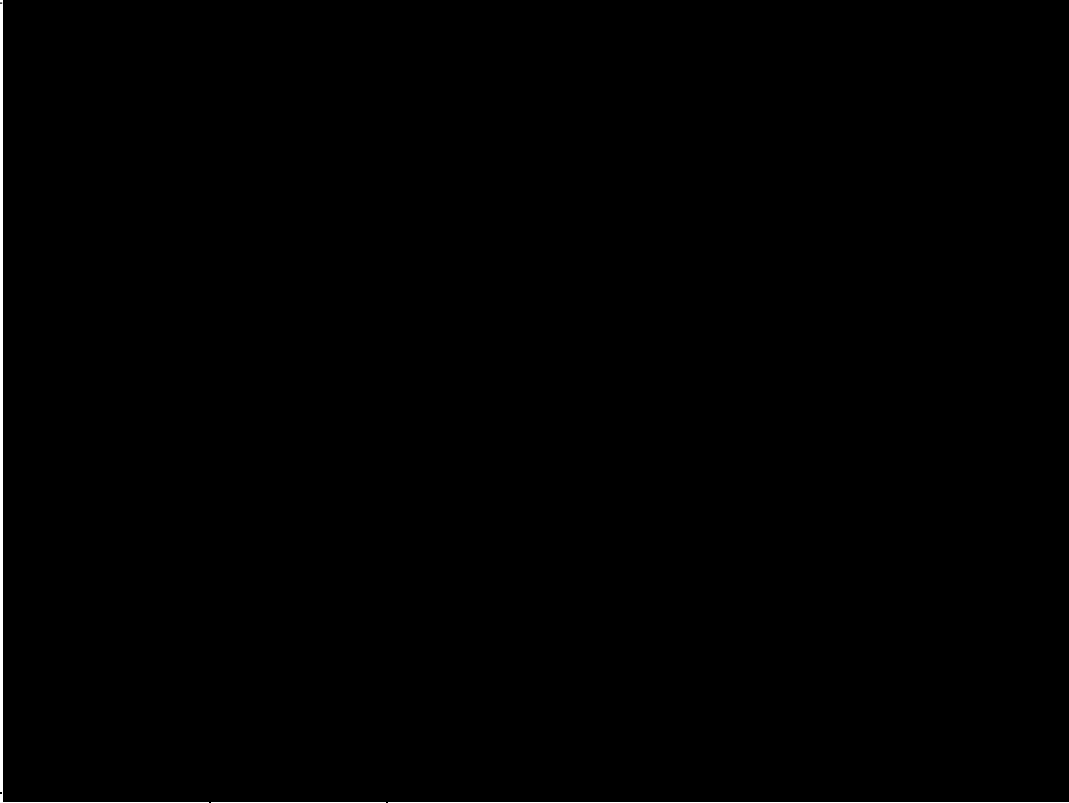
			
12	DATE/TIME:	10/2/2019	3:09 p.m.
	FILENAME:	DSCN0366.jpg	
	DESCRIPTION:	CY-11 Cooling Tower sampling point on heat exchanger return line.	
	TAKEN BY:	James Haynes	

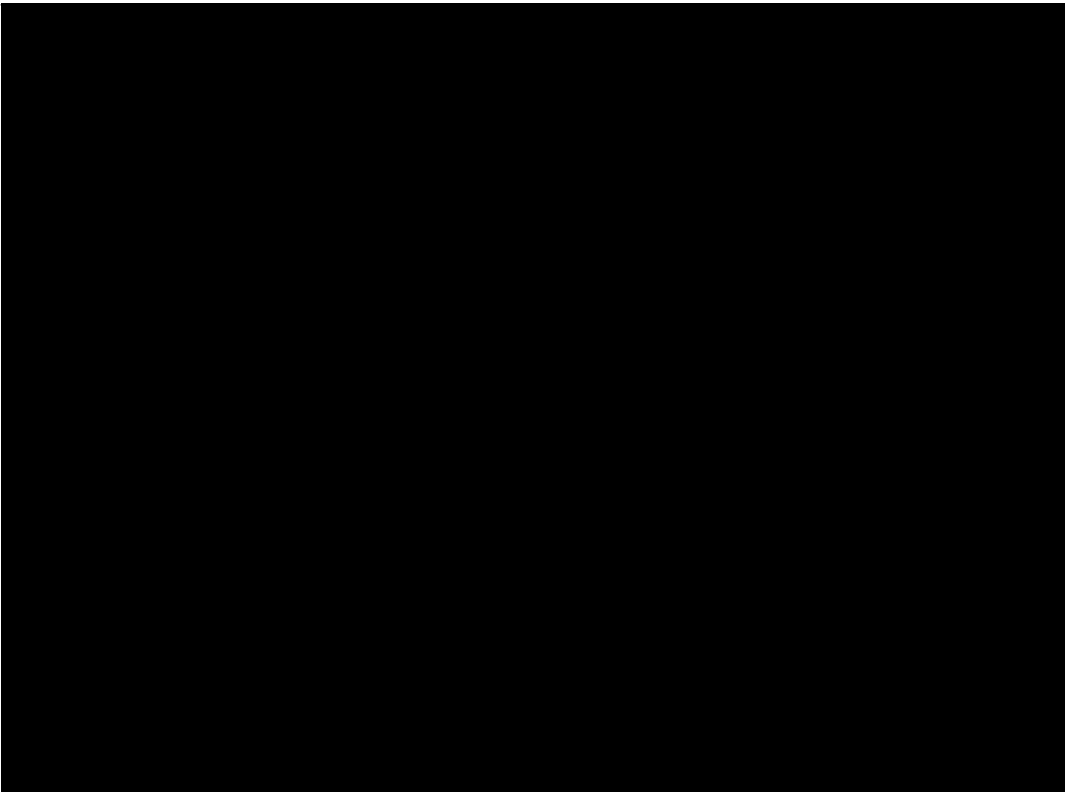
			
13	DATE/TIME:	10/2/2019	3:10 p.m.
	FILENAME:	DSCN0367.jpg	
	DESCRIPTION:	Close-up of Modified El Paso Method sampling apparatus.	
	TAKEN BY:	James Haynes	

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501 E. Main Street, Artesia, NM 88210

FRS # 1100 0047 2630
Eddy County

			
14	DATE/TIME:	10/2/2019	3:11 p.m.
	FILENAME:	DSCN0397.jpg	
	DESCRIPTION:	T-417 tank. Visible emissions observed with FLIR infrared camera from tank vents.	
	TAKEN BY:	Debbie Ford	

			
15	DATE/TIME:	10/2/2019	3:32 p.m.
	FILENAME:	DSCN0402.jpg	
	DESCRIPTION:	T-124 tank. Visible emissions observed with FLIR infrared camera.	
	TAKEN BY:	Debbie Ford	

			
16	DATE/TIME:	10/2/2019	4:00 p.m.
	FILENAME:	DSCN0404.jpg	
	DESCRIPTION:	T-49 Slop Oil Tank - BWON sampling in Wastewater Unit.	
	TAKEN BY:	Debbie Ford	



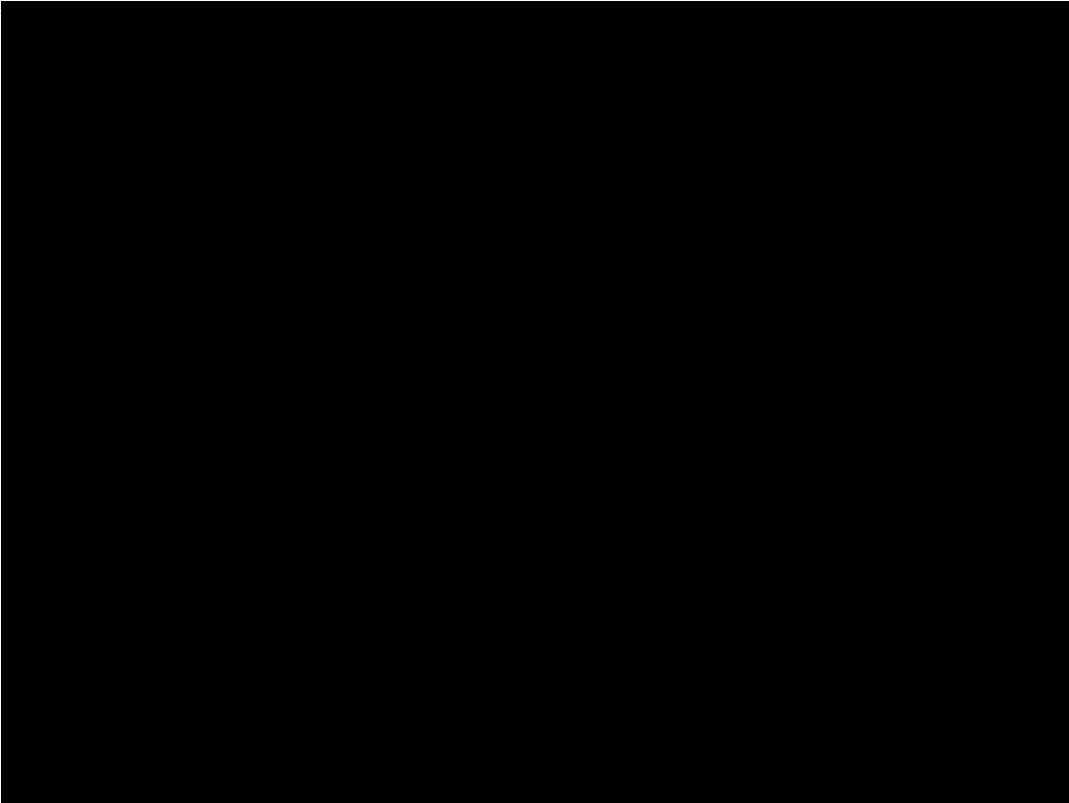
17	DATE/TIME:	10/2/2019	4:05 p.m.
	FILENAME:	DSCN0405.jpg	
	DESCRIPTION:	T-49 Slop Oil Tank BWON sampling in Wastewater Unit. Collection of sample after passing through the chiller.	
	TAKEN BY:	Debbie Ford	

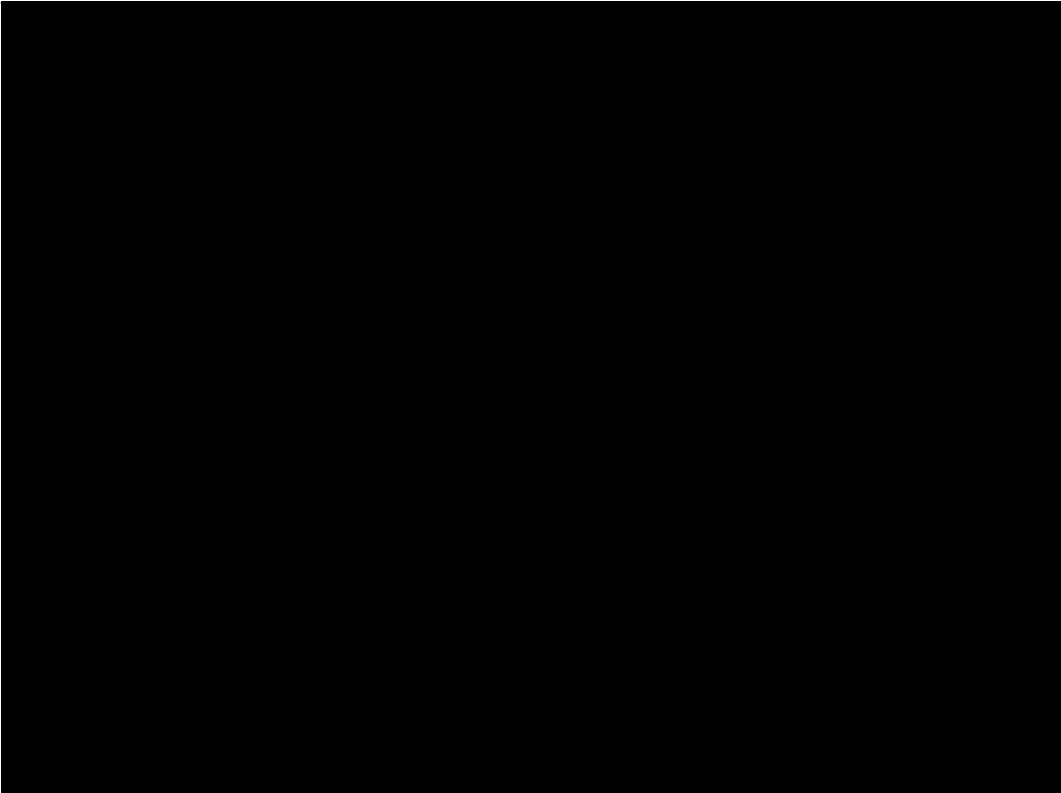


18	DATE/TIME:	10/2/2019	4:08 p.m.
	FILENAME:	DSCN0406.jpg	
	DESCRIPTION:	T-49 Slop Oil Tank BWON sampling in Wastewater Unit. Collection of sample after passing through the chiller.	
	TAKEN BY:	Debbie Ford	



19	DATE/TIME:	10/2/2019	4:18 p.m.
	FILENAME:	DSCN0407.jpg	
	DESCRIPTION:	Aboveground API Separator – west side. Note the clamps for sealing the roof of the separator. Visible emissions observed with the FLIR infrared camera.	
	TAKEN BY:	Debbie Ford	

			
20	DATE/TIME:	10/2/2019	4:18 p.m.
	FILENAME:	DSCN0408.jpg	
	DESCRIPTION:	Aboveground API Separator (west side) with carbon canister system used as the control device. Note the clamps for sealing the roof of the separator. Visible emissions observed with the FLIR infrared camera.	
	TAKEN BY:	Debbie Ford	

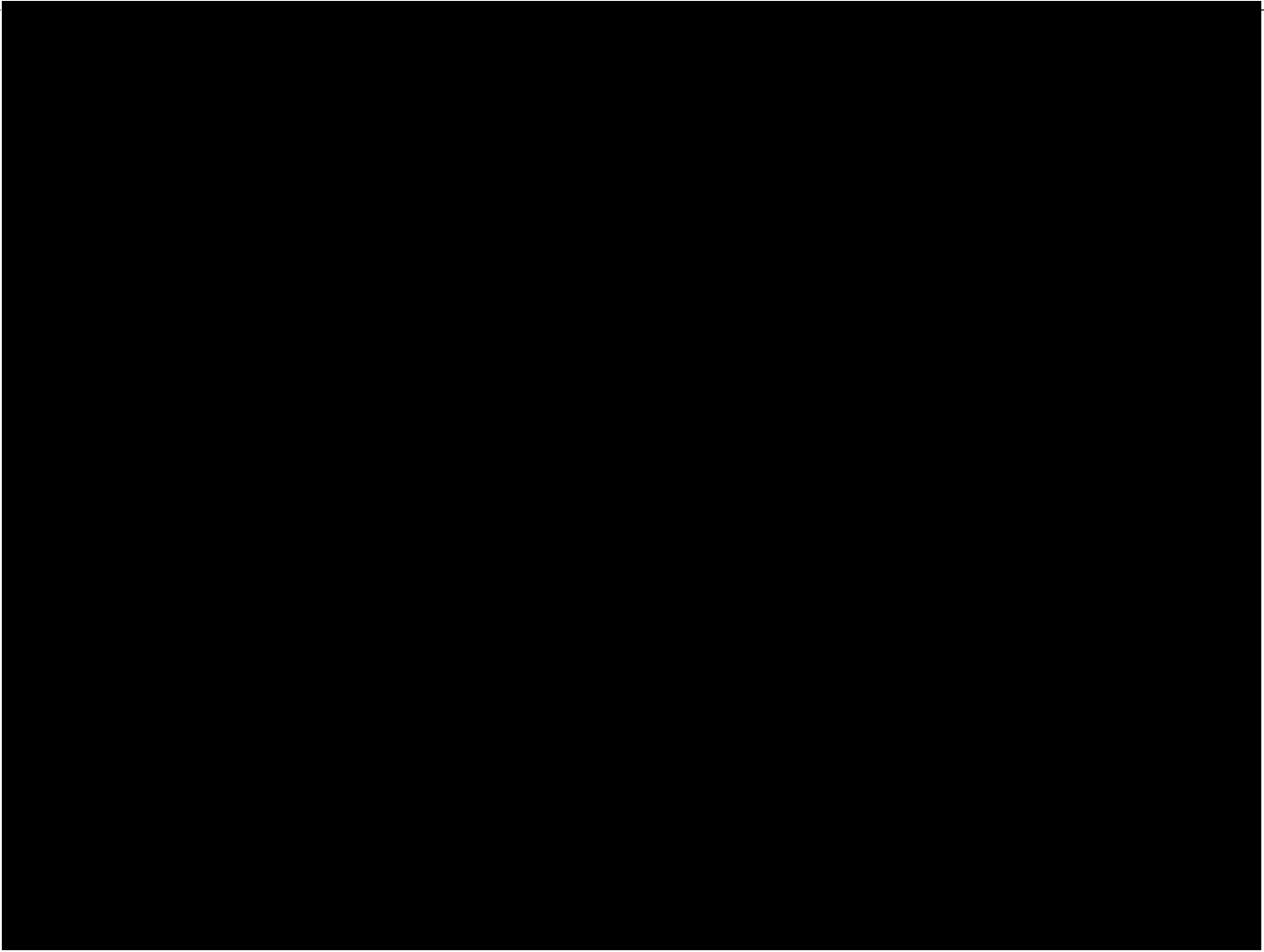
			
21	DATE/TIME:	10/2/2019	4:23 p.m.
	FILENAME:	DSCN0409.jpg	
	DESCRIPTION:	Aboveground API Separator. West separator on the right. East separator on the left. Note the clamps for sealing the roof of the separator. Visible emissions observed with the FLIR infrared camera on both separators.	
	TAKEN BY:	Debbie Ford	

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501 E. Main Street, Artesia, NM 88210

FRS # 1100 0047 2630
Eddy County



22	DATE/TIME:	10/2/2019	4:36 p.m.
	FILENAME:	DSCN0410.jpg	
	DESCRIPTION:	Aboveground API Separator (east side). Note the clamps for sealing the roof of the separator. Visible emissions observed with the FLIR infrared camera.	
	TAKEN BY:	Debbie Ford	

			
23	DATE/TIME:	10/2/2019	4:52 p.m.
	FILENAME:	DSCN0369.jpg	
	DESCRIPTION:	Control Room display of temperatures into and out of fin-fan cooler X-187 and heat exchangers X-571, X-572, X-172. The stream out of the coolers/heat exchangers is the feed to T-57.	
	TAKEN BY:	James Haynes	



24	DATE/TIME:	10/3/2019	9:45 a.m.
	FILENAME:	DSCN0370.jpg	
	DESCRIPTION:	Fenceline Monitoring System - Sample Point 7 on the east side of the facility near T-11.	
	TAKEN BY:	James Haynes	



25	DATE/TIME:	10/3/2019	9:43 a.m.
	FILENAME:	DSCN0411.jpg	
	DESCRIPTION:	Fenceline Monitoring System - Sample Point 7. Holder open to show the passive sample tubes.	
	TAKEN BY:	Debbie Ford	



26	DATE/TIME:	10/3/2019	9:49 a.m.
	FILENAME:	DSCN0412.jpg	
	DESCRIPTION:	T-11 tank (left). To the north is T-12 tank (right). Visible emissions observed with the FLIR infrared camera from both tanks.	
	TAKEN BY:	Debbie Ford	



27	DATE/TIME:	10/3/2019	9:52 a.m.
	FILENAME:	DSCN0371.jpg	
	DESCRIPTION:	T-11 vent.	
	TAKEN BY:	James Haynes	



28	DATE/TIME:	10/3/2019	9:53 a.m.
	FILENAME:	DSCN0372.jpg	
	DESCRIPTION:	T-11.	
	TAKEN BY:	James Haynes	



29	DATE/TIME:	10/3/2019	10:07 a.m.
	FILENAME:	DSCN0373.jpg	
	DESCRIPTION:	T-12 tank. Visible emissions observed with the FLIR infrared camera.	
	TAKEN BY:	James Haynes	



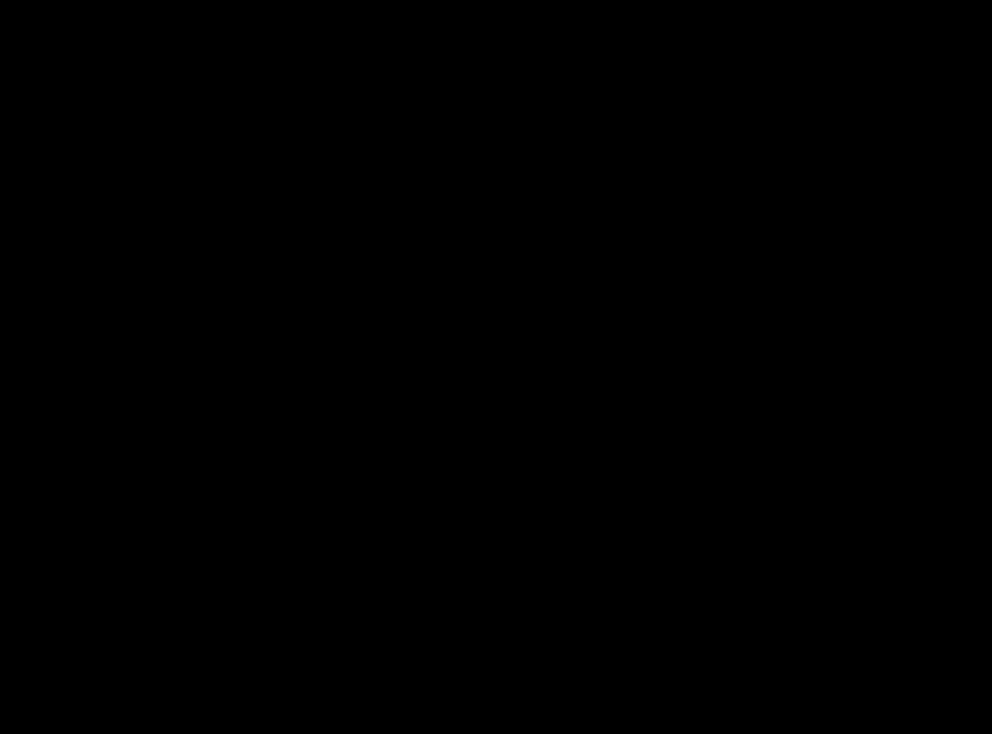
30	DATE/TIME:	10/3/2019	10:08 a.m.
	FILENAME:	DSCN0374.jpg	
	DESCRIPTION:	T-12 tank.	
	TAKEN BY:	James Haynes	

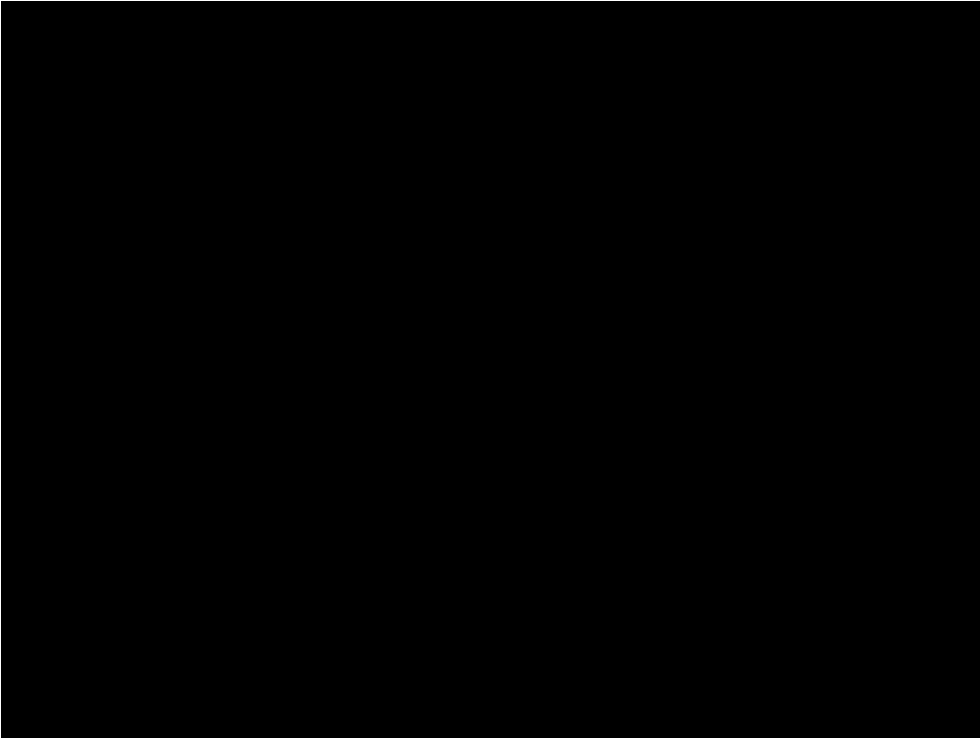


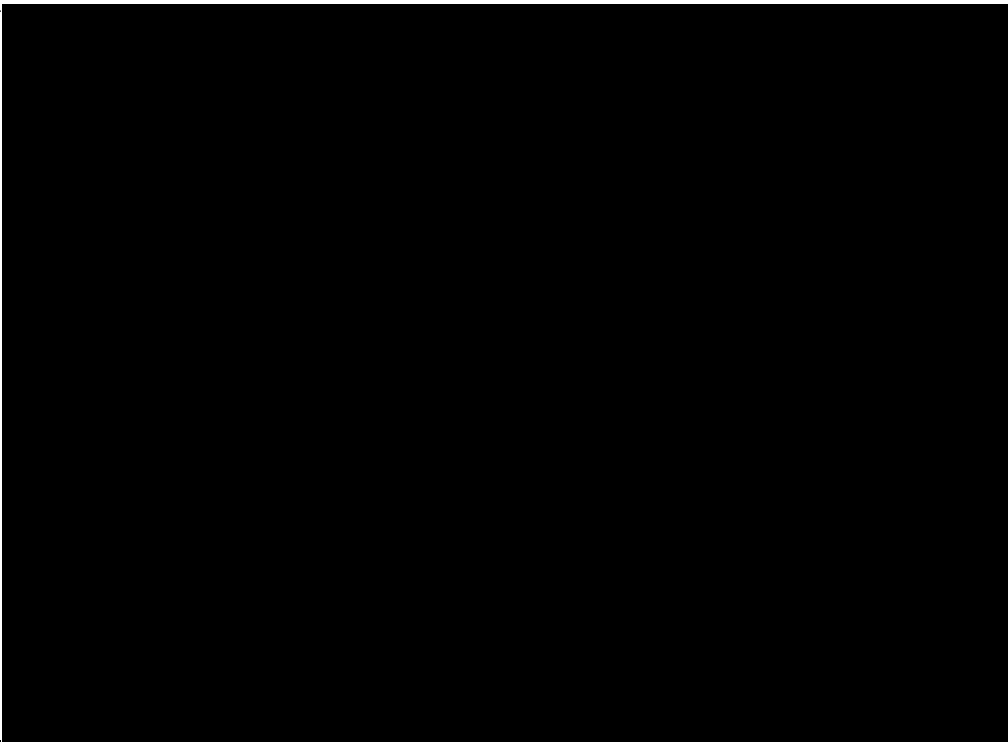
31	DATE/TIME:	10/3/2019	10:16 a.m.
	FILENAME:	DSCN0375.jpg	
	DESCRIPTION:	T-11 tank.	
	TAKEN BY:	James Haynes	

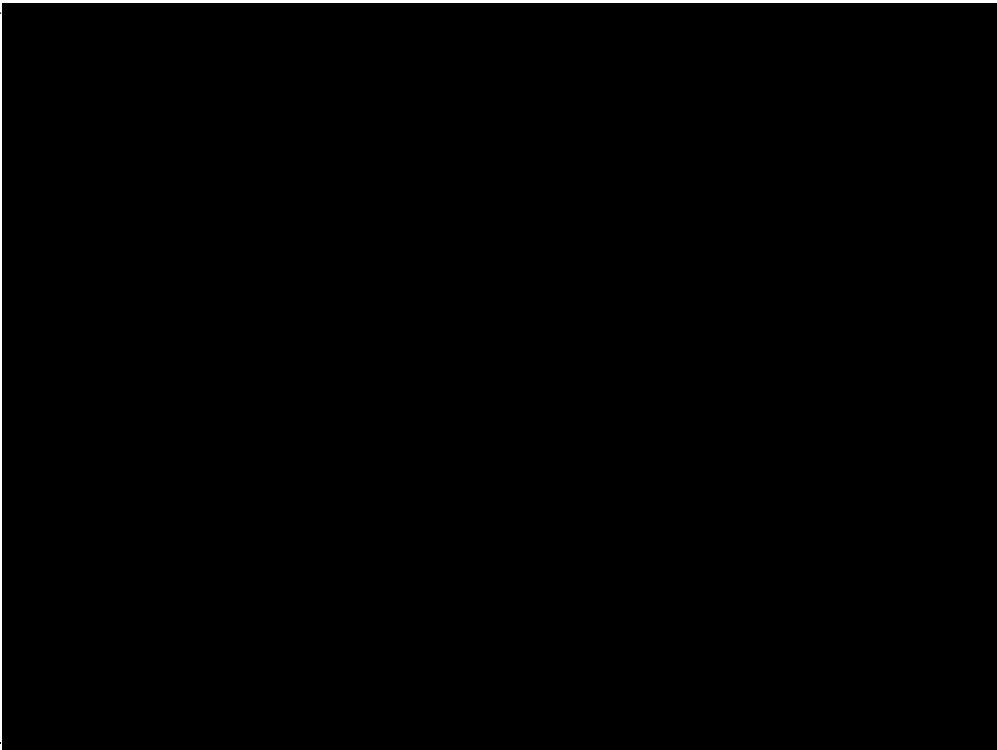


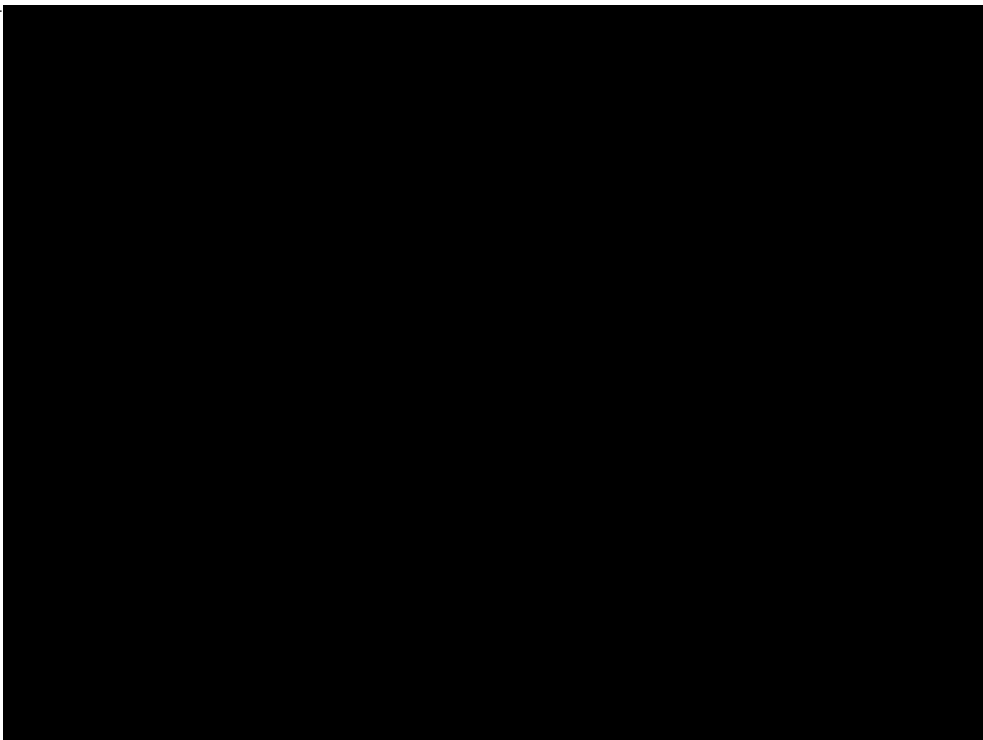
32	DATE/TIME:	10/3/2019	10:21 a.m.
	FILENAME:	DSCN0376.jpg	
	DESCRIPTION:	T-108 tank. Visible emissions observed with the FLIR infrared camera.	
	TAKEN BY:	James Haynes	

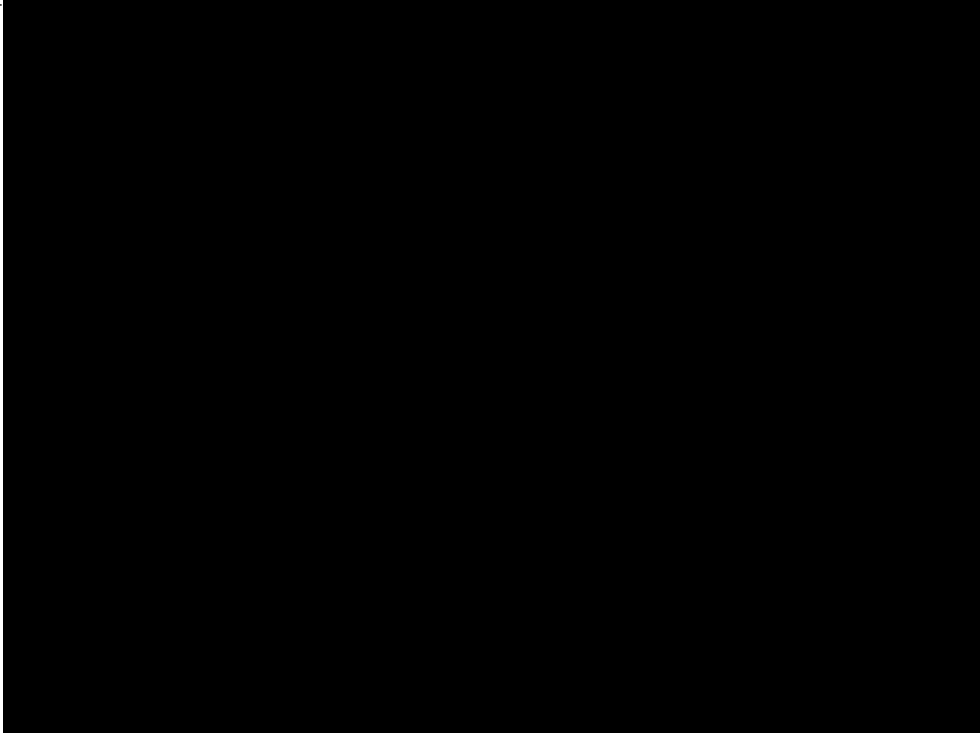
			
33	DATE/TIME:	10/3/2019	10:32 a.m.
	FILENAME:	DSCN0377.jpg	
	DESCRIPTION:	T-415 tank. Visible emissions observed with the FLIR infrared camera.	
	TAKEN BY:	James Haynes	

			
34	DATE/TIME:	10/3/2019	10:36 a.m.
	FILENAME:	DSCN0378.jpg	
	DESCRIPTION:	T-109 tank. Visible emissions observed with the FLIR infrared camera.	
	TAKEN BY:	James Haynes	

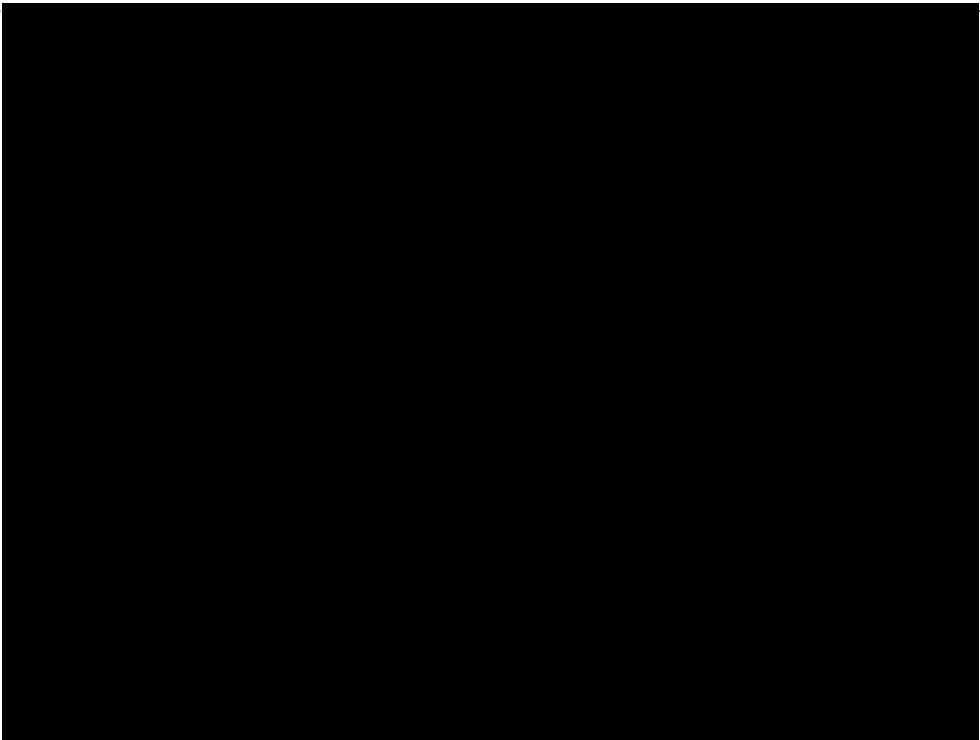
			
35	DATE/TIME:	10/3/2019	10:44 a.m.
	FILENAME:	DSCN0379.jpg	
	DESCRIPTION:	T-108 tank back.	
	TAKEN BY:	James Haynes	

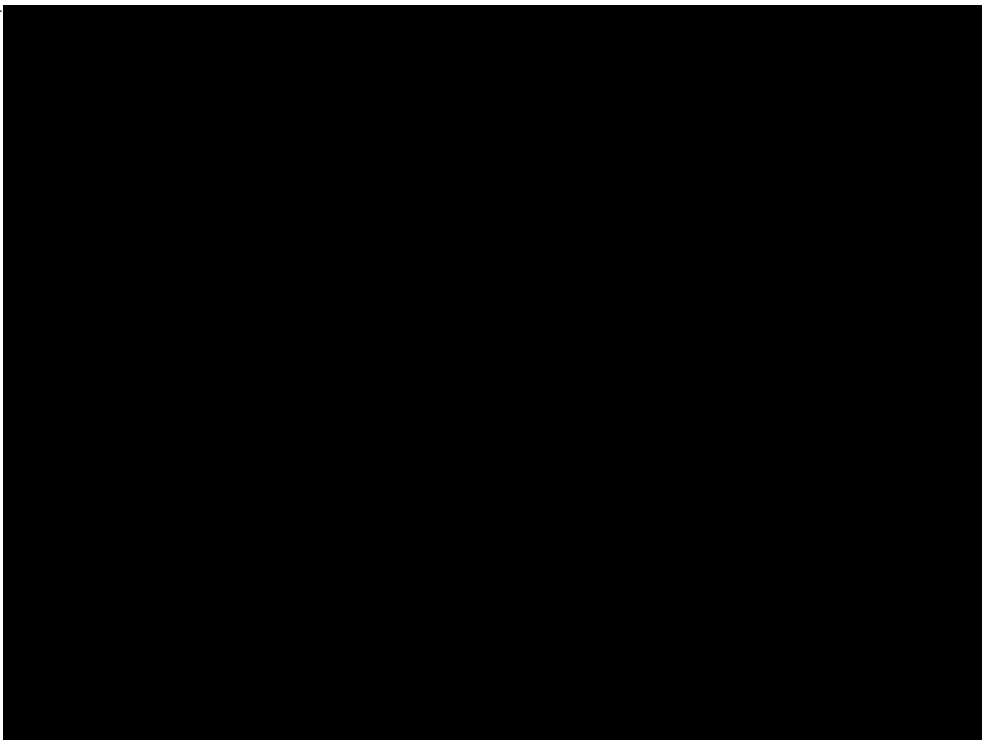
			
36	DATE/TIME:	10/3/2019	10:46 a.m.
	FILENAME:	DSCN0380.jpg	
	DESCRIPTION:	T-109 tank.	
	TAKEN BY:	James Haynes	

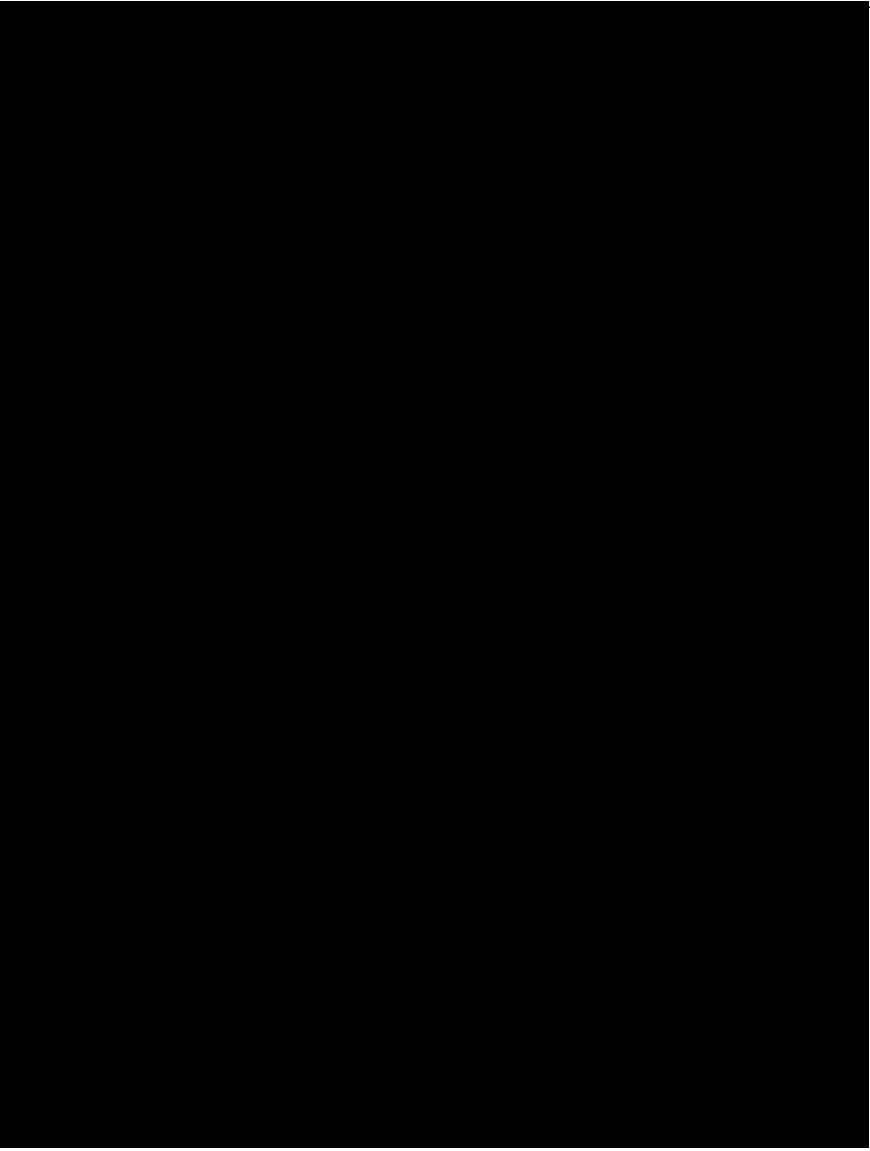
			
37	DATE/TIME:	10/3/2019	10:52 a.m.
	FILENAME:	DSCN0414.jpg	
	DESCRIPTION:	T-401 tank. Visible emissions observed with the FLIR infrared camera from the top of the floating roof and the base of the tank.	
	TAKEN BY:	Debbie Ford	

			
38	DATE/TIME:	10/3/2019	11:03 a.m.
	FILENAME:	DSCN0381.jpg	
	DESCRIPTION:	T-401 tank left side. Roof not floating on liquid surface. Right side approximately 1 foot lower than the left side. Water observed on approximately ½ of the surface of the roof deck. Visible emissions observed with the FLIR camera.	
	TAKEN BY:	James Haynes	

			
39	DATE/TIME:	10/3/2019	11:03 a.m.
	FILENAME:	DSCN0382.jpg	
	DESCRIPTION:	T-401 tank center view. Roof not floating on liquid surface. Right side approximately 1 foot lower than the left side. Water observed on approximately ½ of the surface of the roof deck. Visible emissions observed with the FLIR camera.	
	TAKEN BY:	James Haynes	

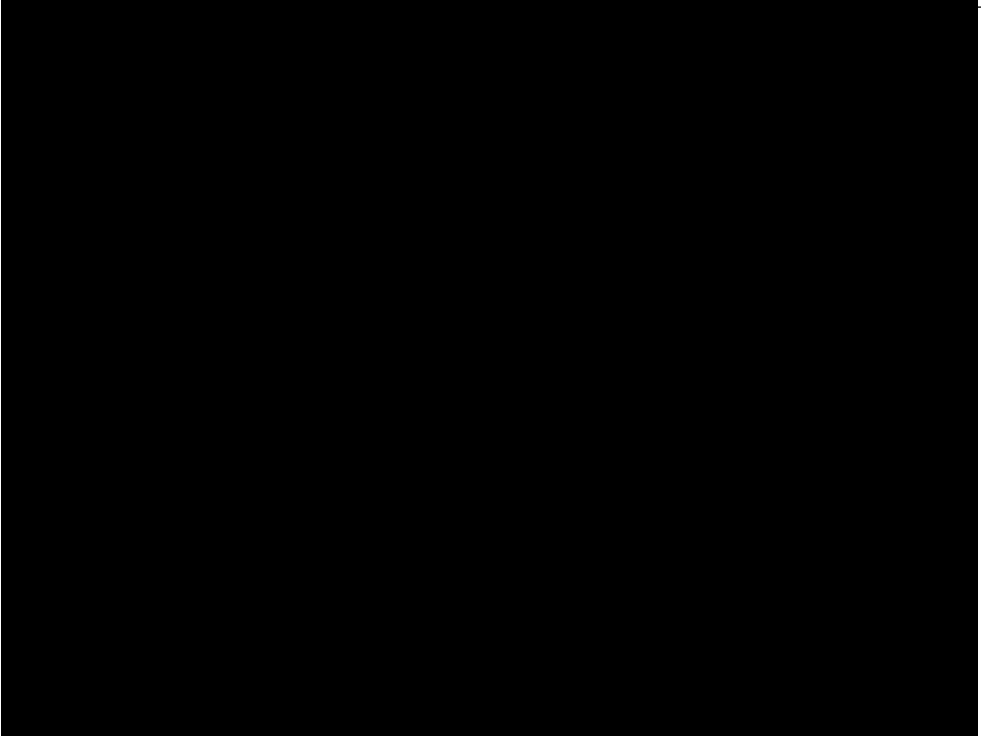
			
40	DATE/TIME:	10/3/2019	11:03 a.m.
	FILENAME:	DSCN0383.jpg	
	DESCRIPTION:	T-401 tank right side. Roof not floating on liquid surface. Right side approximately 1 foot lower than the left side. Water observed on approximately ½ of the surface of the roof deck. Visible emissions observed with the FLIR camera.	
	TAKEN BY:	James Haynes	

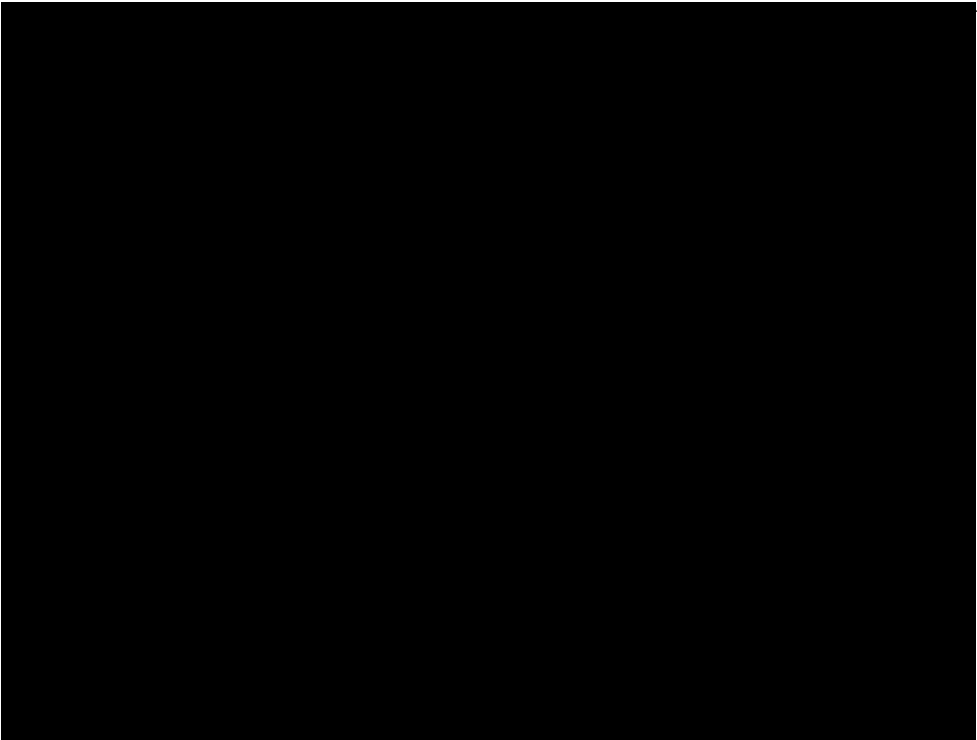
			
41	DATE/TIME:	10/3/2019	11:04 a.m.
	FILENAME:	DSCN0384.jpg	
	DESCRIPTION:	T-401 tank right side. Roof not floating on liquid surface. Right side approximately 1 foot lower than the left side. Water observed on approximately ½ of the surface of the roof deck. Visible emissions observed with the FLIR camera.	
	TAKEN BY:	James Haynes	

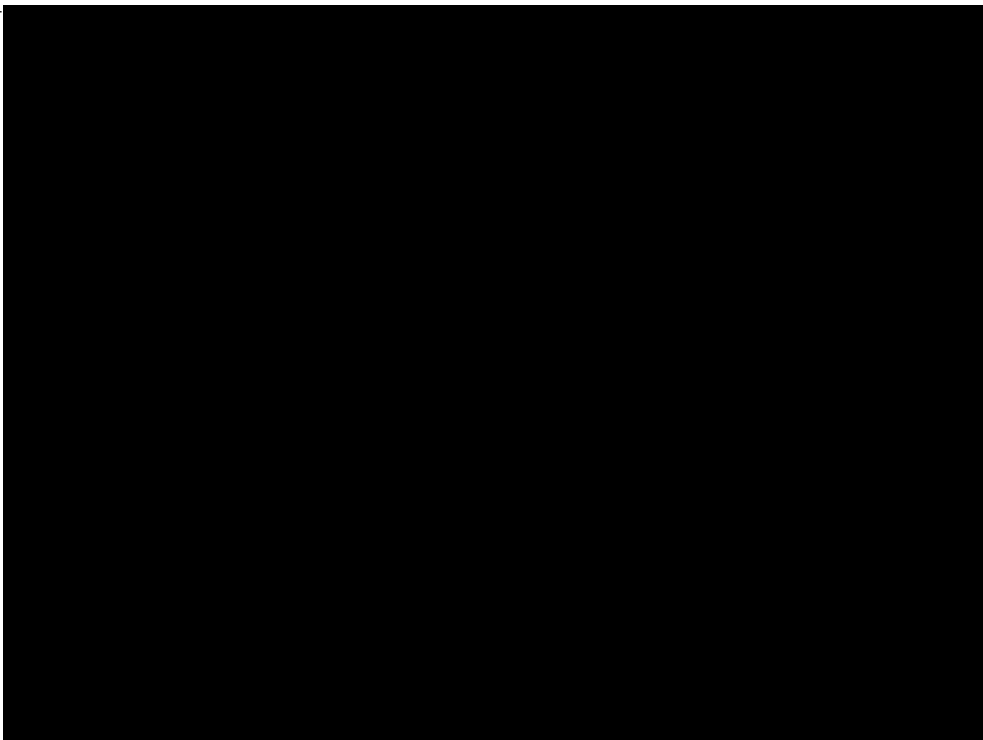
			
42	DATE/TIME:	10/3/2019	11:17 a.m.
	FILENAME:	DSCN0385.jpg	
	DESCRIPTION:	T-401 tank slotted Guidepole on right side. Roof not floating on liquid surface. Right side approximately 1 foot lower than the left side. Water observed on approximately ½ of the surface of the roof deck. Visible emissions observed with the FLIR camera.	
	TAKEN BY:	James Haynes	

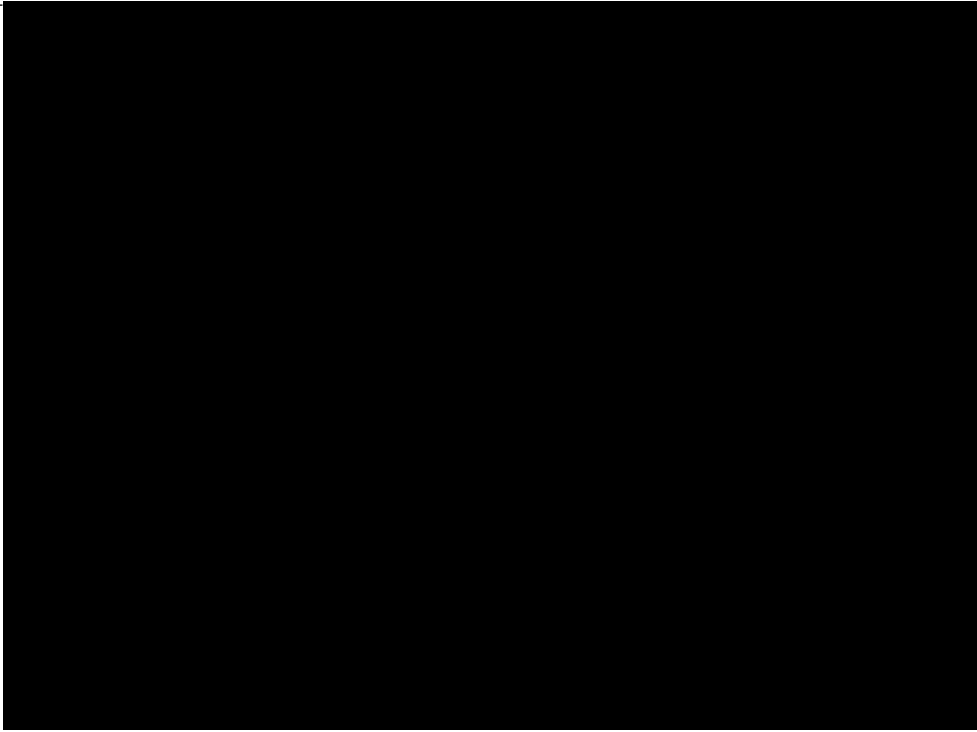
			
43	DATE/TIME:	10/3/2019	11:21 a.m.
	FILENAME:	DSCN0386.jpg	
	DESCRIPTION:	#3 Blending Pit.	
	TAKEN BY:	James Haynes	

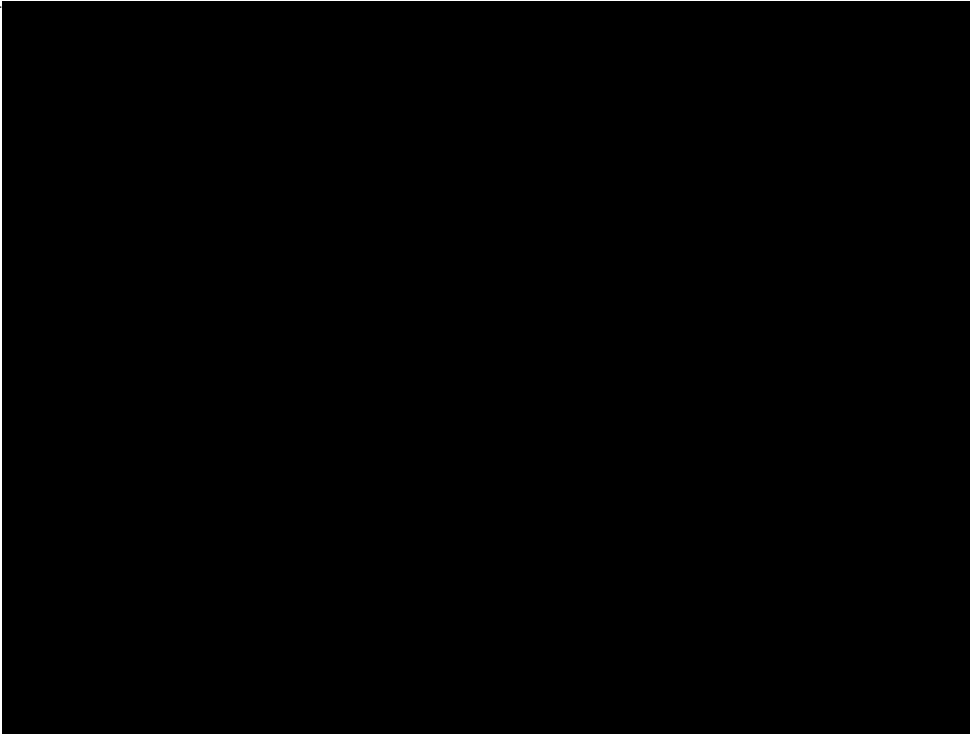
			
44	DATE/TIME:	10/3/2019	11:21 a.m.
	FILENAME:	DSCN0387.jpg	
	DESCRIPTION:	#3 Blending Pit.	
	TAKEN BY:	James Haynes	

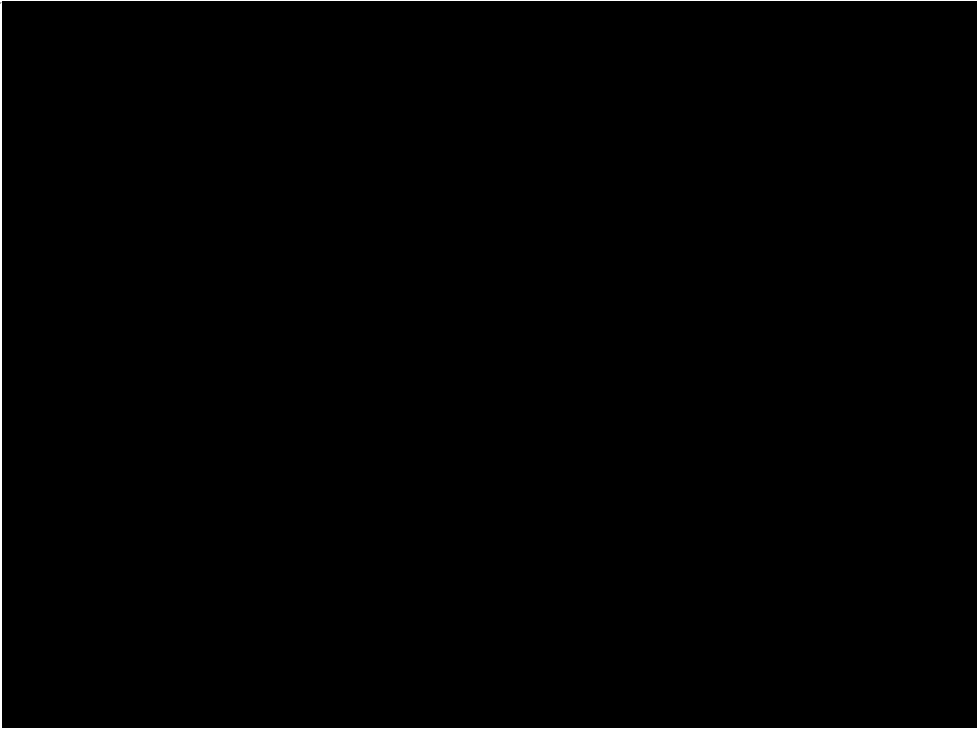
			
45	DATE/TIME:	10/3/2019	11:31 a.m.
	FILENAME:	DSCN0415.jpg	
	DESCRIPTION:	T-1225 Crude oil tank.	
	TAKEN BY:	Debbie Ford	

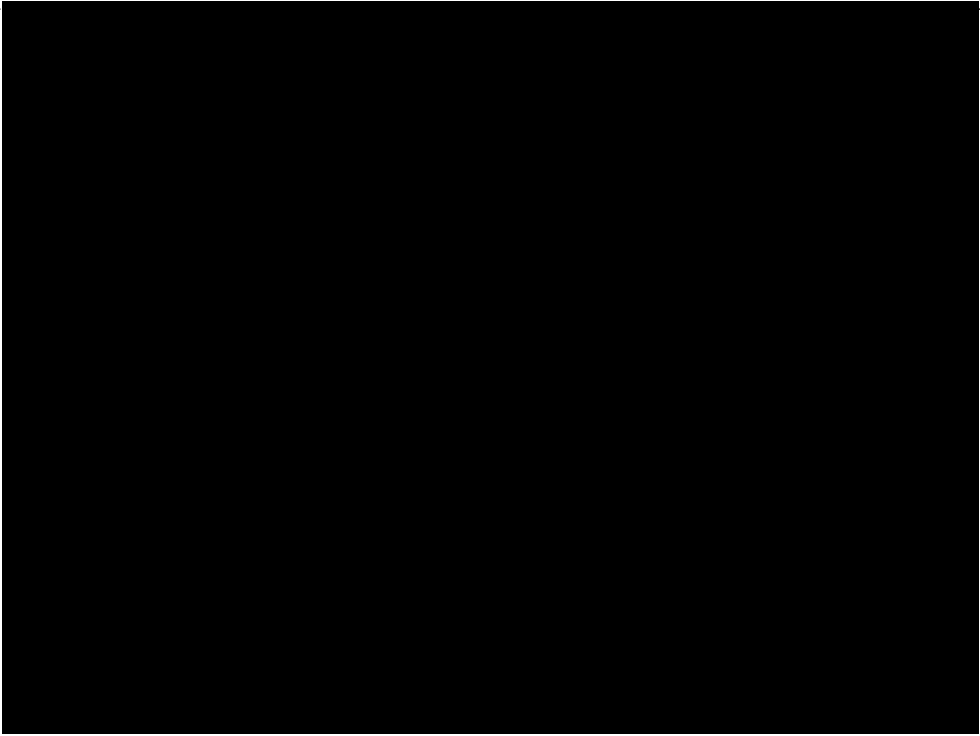
			
46	DATE/TIME:	10/3/2019	11:31 a.m.
	FILENAME:	DSCN0416.jpg	
	DESCRIPTION:	T-1225 Crude oil tank (foreground); T-437 Crude oil tank (background)	
	TAKEN BY:	Debbie Ford	

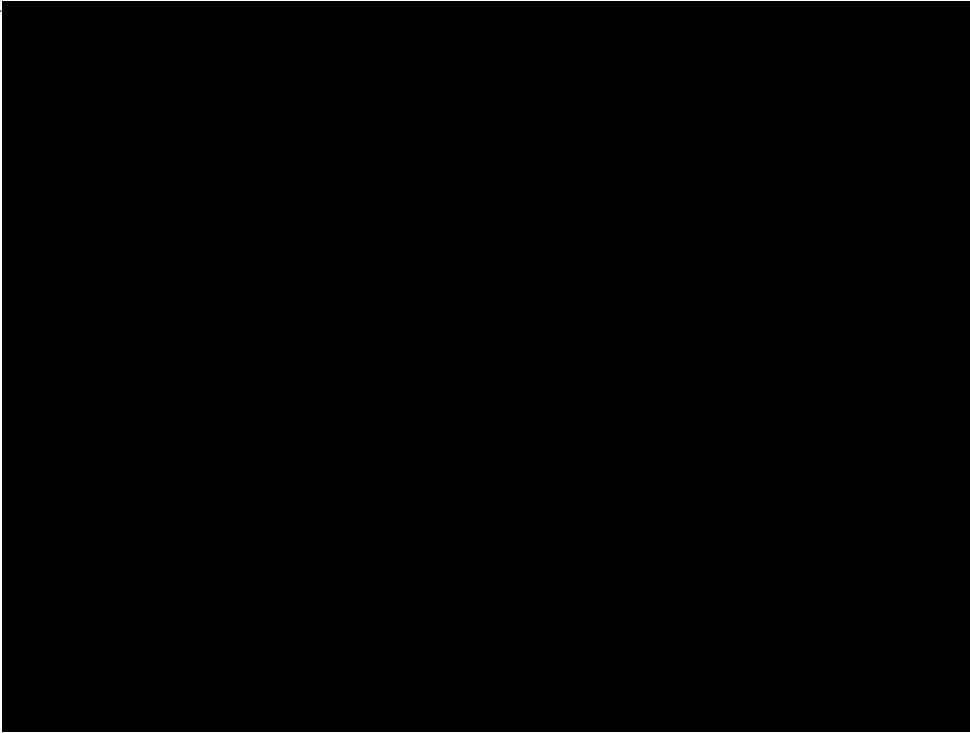
			
47	DATE/TIME:	10/3/2019	11:37 a.m.
	FILENAME:	DSCN0388.jpg	
	DESCRIPTION:	T-1225 Crude Oil Tank left side. Water observed on surface of roof deck. Visible emissions observed with the FLIR infrared camera.	
	TAKEN BY:	James Haynes	

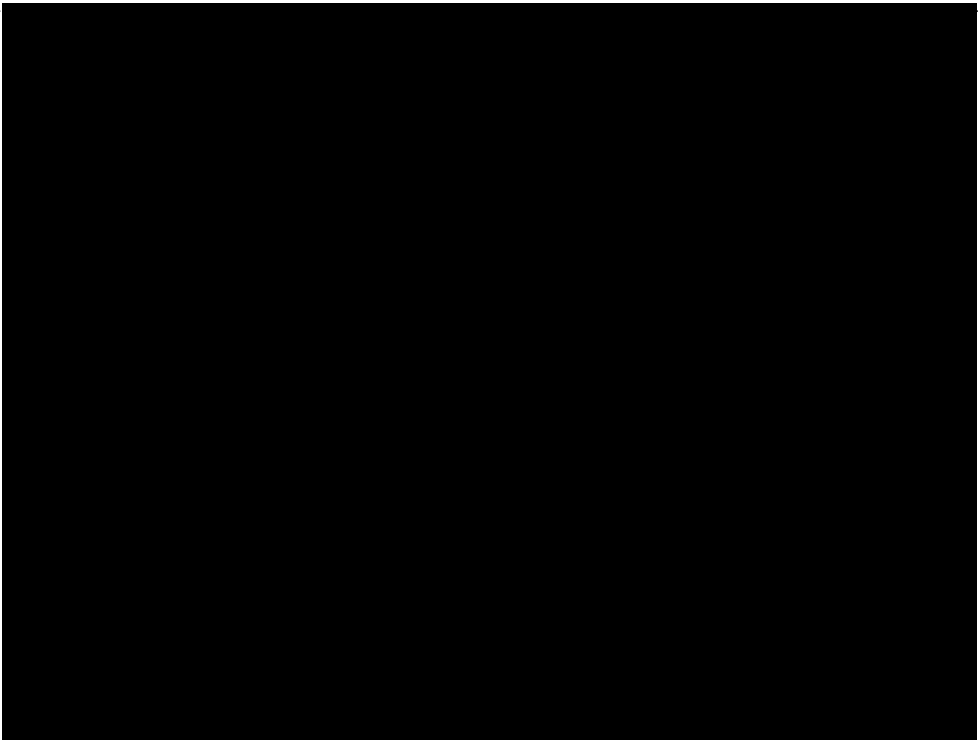
			
48	DATE/TIME:	10/3/2019	11:37 a.m.
	FILENAME:	DSCN0389.jpg	
	DESCRIPTION:	T-1225 Crude Oil Tank left side. Water observed on surface of roof deck.	
	TAKEN BY:	James Haynes	

			
49	DATE/TIME:	10/3/2019	11:37 a.m.
	FILENAME:	DSCN0390.jpg	
	DESCRIPTION:	T-1225 Crude Oil Tank center view. Water observed on surface of roof deck.	
	TAKEN BY:	James Haynes	

			
50	DATE/TIME:	10/3/2019	11:38 a.m.
	FILENAME:	DSCN0391.jpg	
	DESCRIPTION:	T-1225 Crude Oil Tank right side. Water observed on surface of roof deck.	
	TAKEN BY:	James Haynes	

			
51	DATE/TIME:	10/3/2019	11:38 a.m.
	FILENAME:	DSCN0392.jpg	
	DESCRIPTION:	T-1225 Crude Oil Tank right side. Water observed on surface of roof deck.	
	TAKEN BY:	James Haynes	

			
52	DATE/TIME:	10/3/2019	12:01 p.m.
	FILENAME:	DSCN0393.jpg	
	DESCRIPTION:	T-431 tank. Visible emissions observed with the FLIR infrared camera at the staining on the right side of the tank.	
	TAKEN BY:	James Haynes	

			
53	DATE/TIME:	10/3/2019	12:09 p.m.
	FILENAME:	DSCN0394.jpg	
	DESCRIPTION:	T-432 tank. Visible emissions observed with the FLIR infrared camera from the tank vent on the right (at the tank staining) and possible emissions at the edge of the roof where the tank staining is on the left.	
	TAKEN BY:	James Haynes	

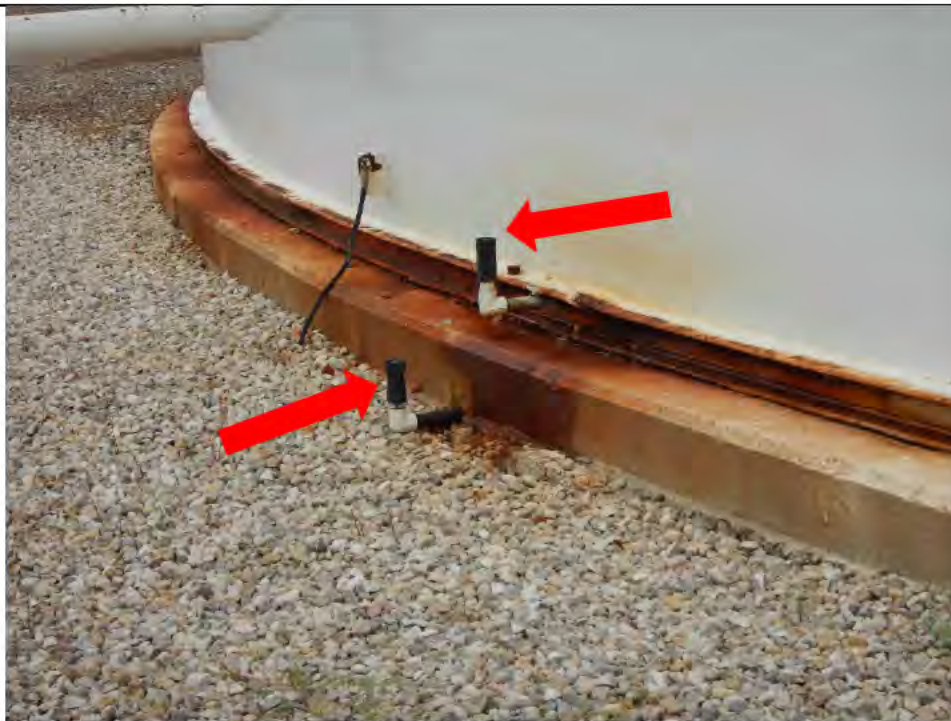


54	DATE/TIME:	10/3/2019	12:15 p.m.
	FILENAME:	DSCN0395.jpg	
	DESCRIPTION:	T-434 Raw Diesel tank. Visible emissions observed with the FLIR infrared camera.	
	TAKEN BY:	James Haynes	

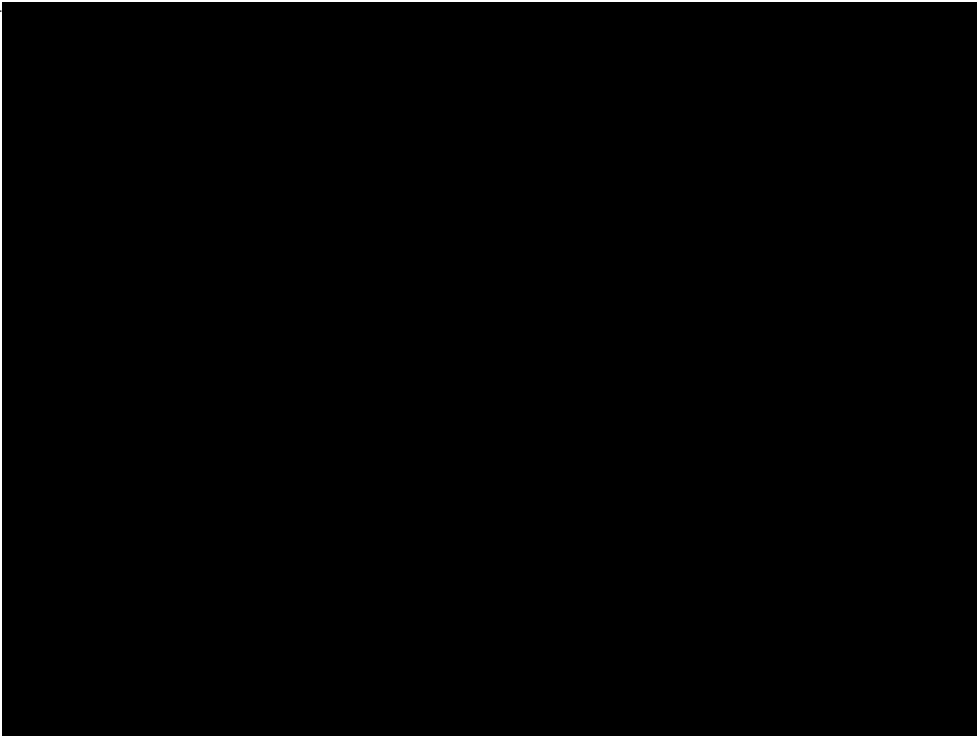
			
55	DATE/TIME:	10/3/2019	12:21 p.m.
	FILENAME:	DSCN0396.jpg	
	DESCRIPTION:	T-417 tank (middle tank). Visible emissions observed with the FLIR infrared camera.	
	TAKEN BY:	James Haynes	

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501 E. Main Street, Artesia, NM 88210

FRS # 1100 0047 2630
Eddy County



56	DATE/TIME:	10/4/2019	9:46 a.m.
	FILENAME:	DSCN0420.jpg	
	DESCRIPTION:	T-401 Isom (gasoline) tank. Visible emissions observed with the FLIR infrared camera. Praxair monitors to detect leaks located between the old tank floor and the new one as well as below the concrete foundation. Emissions detected were not from the installed monitors.	
	TAKEN BY:	Debbie Ford	

			
57	DATE/TIME:	10/4/2019	10:04 a.m.
	FILENAME:	DSCN0398.jpg	
	DESCRIPTION:	T-401 Isom (gasoline) tank. Water draw valves on the left allowing liquid to drip into drain. Visible emissions observed with the FLIR infrared camera. After tightening valves, the drip and visible emissions continued.	
	TAKEN BY:	James Haynes	



58	DATE/TIME:	10/4/2019	10:10 a.m.
	FILENAME:	DSCN0399.jpg	
	DESCRIPTION:	T-401 Isom (gasoline) tank. Praxair monitors to detect leaks located between the old tank floor and the new one as well as below the concrete foundation. Visible emissions observed with the FLIR camera.	
	TAKEN BY:	James Haynes	



59	DATE/TIME:	10/4/2019	10:14 a.m.
	FILENAME:	DSCN0400.jpg	
	DESCRIPTION:	T-401 Isom (gasoline) tank. Visible emissions observed with the FLIR infrared camera. Location of the highest readings with the MSA Sirius 4-gas with PID monitor: 730 ppm VOCs and 13% LEL.	
	TAKEN BY:	James Haynes	



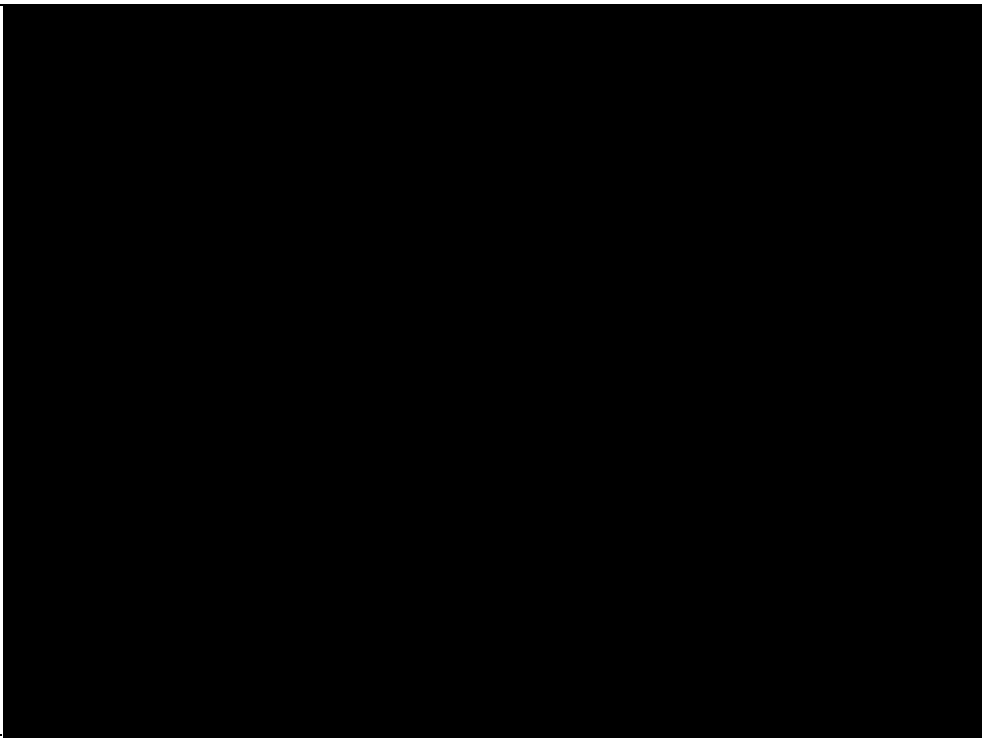
60	DATE/TIME:	10/4/2019	11:18 a.m.
	FILENAME:	DSCN0423.jpg	
	DESCRIPTION:	Delay of Repair (DOR) component in SRU #2 unit. Tag 2720.	
	TAKEN BY:	Debbie Ford	



61	DATE/TIME:	10/4/2019	11:26 a.m.
	FILENAME:	DSCN0401.jpg	
	DESCRIPTION:	Delay of Repair (DOR) valve 2720 in SRU #2 Unit. Originally put on DOR list 5/13/09. Monthly monitoring records since 2016 document emissions from the valve as high as 127,700 and 500,000 ppm at times.	
	TAKEN BY:	James Haynes	

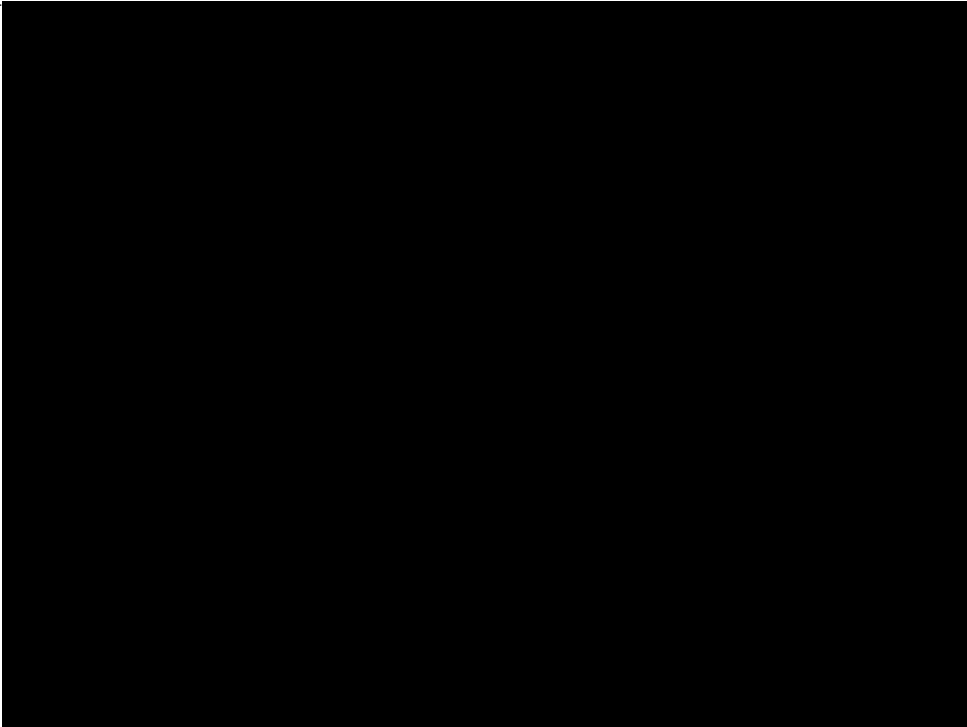


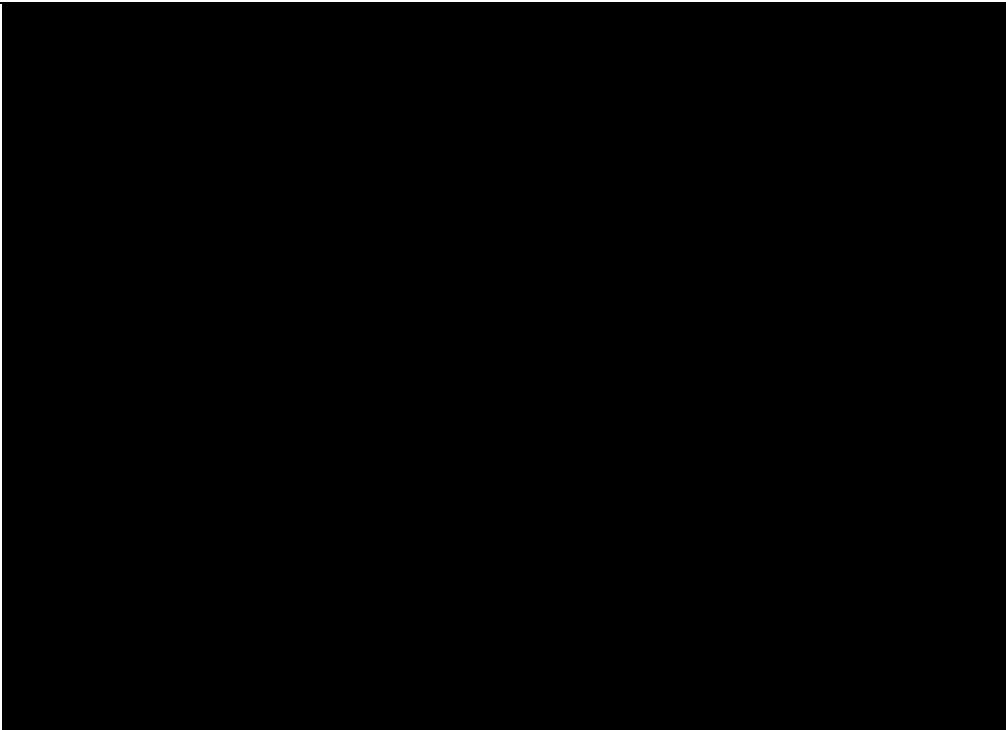
62	DATE/TIME:	10/4/2019	11:26 a.m.
	FILENAME:	DSCN0402.jpg	
	DESCRIPTION:	Back side of LDAR leak tag for DOR valve 2720 in SRU #2 Unit. Originally put on DOR list 5/13/09. Monthly monitoring records since 2016 show emissions from the valve as high as 127,700 and 500,000 ppm at times.	
	TAKEN BY:	James Haynes	

			
63	DATE/TIME:	10/4/2019	11:32 a.m.
	FILENAME:	DSCN0424.jpg	
	DESCRIPTION:	T-737 tank view through open doorsheet. Tank is out of service for new floor installation. Steel sheet panels being aligned and positioned under the wall of the tank prior to rewelding.	
	TAKEN BY:	Debbie Ford	



64	DATE/TIME:	10/4/2019	11:32 a.m.
	FILENAME:	DSCN0425.jpg	
	DESCRIPTION:	T-737 tank view of tank wall edge aligned with new steel sheet panels prior to rewelding.	
	TAKEN BY:	Debbie Ford	

			
65	DATE/TIME:	10/4/2019	11:34 a.m.
	FILENAME:	DSCN0426.jpg	
	DESCRIPTION:	T-737 tank view of underside of roof deck. Roof is on legs, but also cribbing is installed to hold roof.	
	TAKEN BY:	Debbie Ford	

			
66	DATE/TIME:	10/4/2019	11:35 a.m.
	FILENAME:	DSCN0427.jpg	
	DESCRIPTION:	T-737 tank view from open doorsheet to opposite side of tank. The equipment in the foreground is used to push the steel plates into position for welding.	
	TAKEN BY:	Debbie Ford	



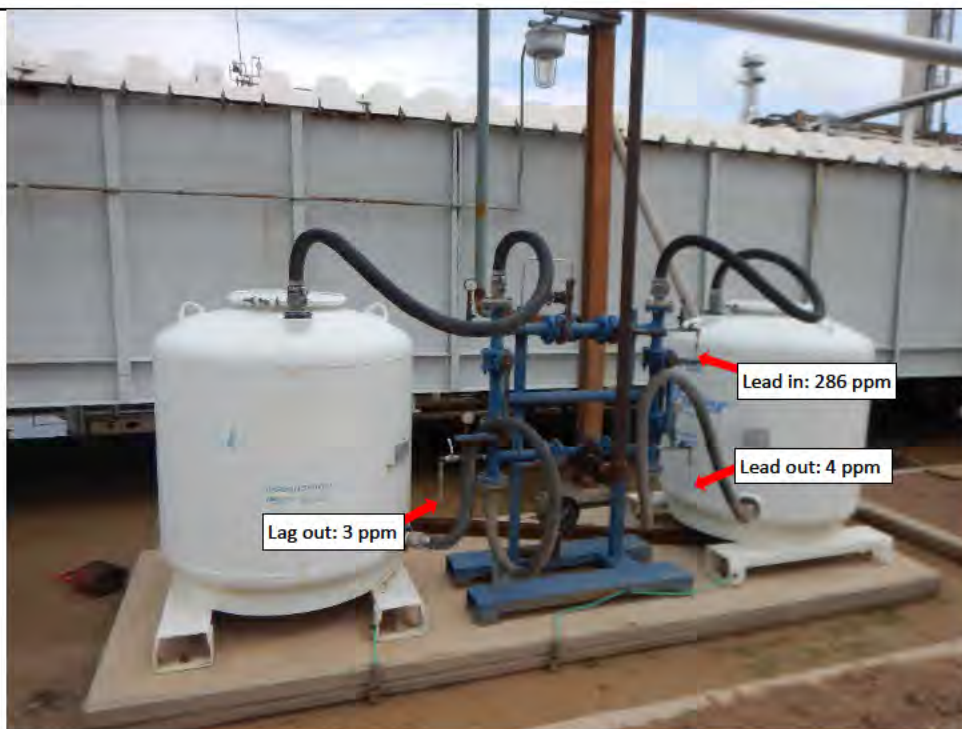
67	DATE/TIME:	10/4/2019	2:02 p.m.
	FILENAME:	DSCN0428.jpg	
	DESCRIPTION:	Old carbon canister sampling at above ground API Separator. HollyFrontier uses their LDAR contractor Dexter to perform the daily sampling.	
	TAKEN BY:	Debbie Ford	



68	DATE/TIME:	10/4/2019	2:02 p.m.
	FILENAME:	DSCN0429.jpg	
	DESCRIPTION:	Hose and piping configuration at the old carbon canister sampling at above ground API Separator. The inlet canister is on the right.	
	TAKEN BY:	Debbie Ford	

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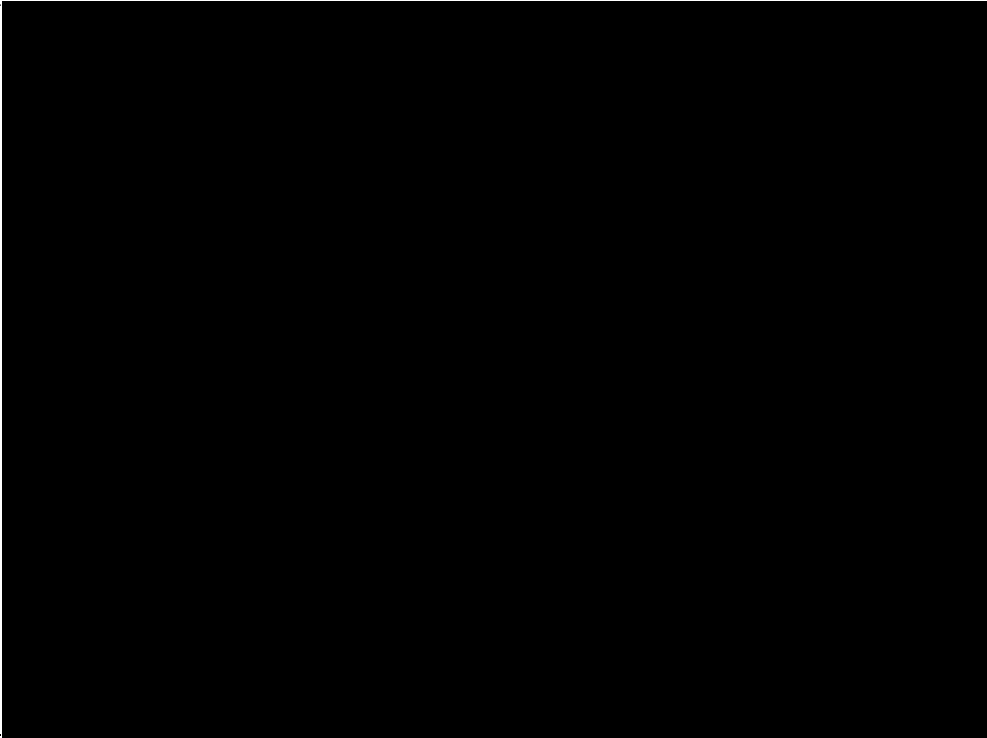
69	DATE/TIME:	10/4/2019	2:12 p.m.
	FILENAME:	DSCN0403.jpg	
	DESCRIPTION:	Old Carbon Canisters used for control of emissions from the aboveground API Separator. Inlet to the lead canister was 286 ppm measured by Dexter with a TVA 1000. Outlet from the lead canister was 4 ppm and inlet to the lag canister was 3 ppm. Have never changed carbon in canisters ever. Leaks from the roof of the API Separator were 1700 ppm measured by the same TVA.	
	TAKEN BY:	James Haynes	

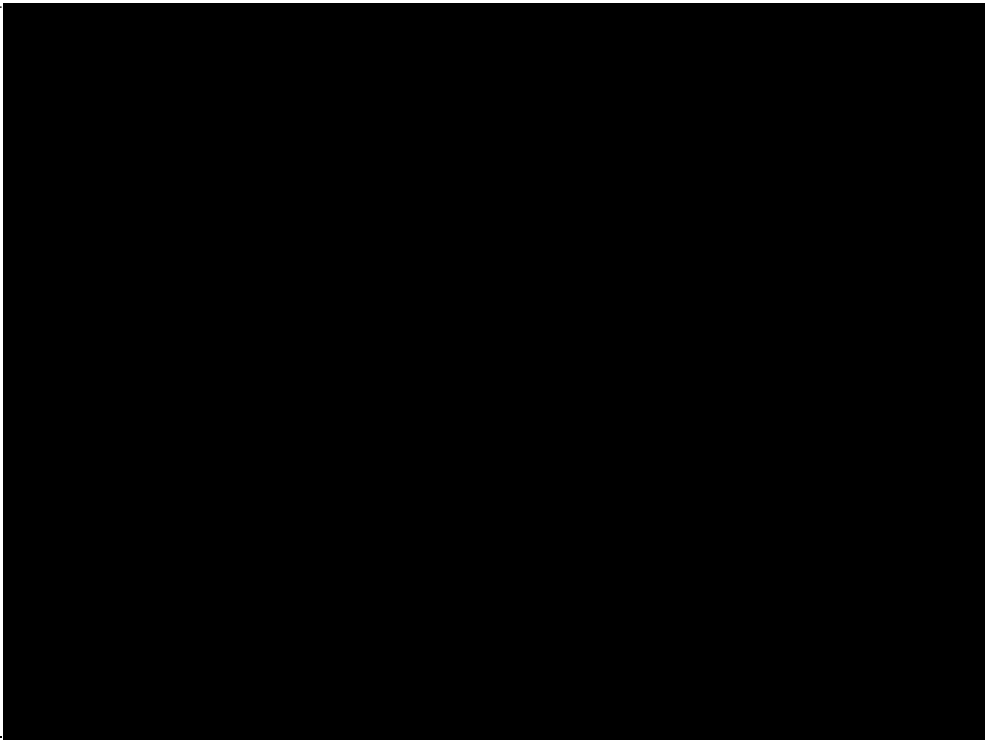


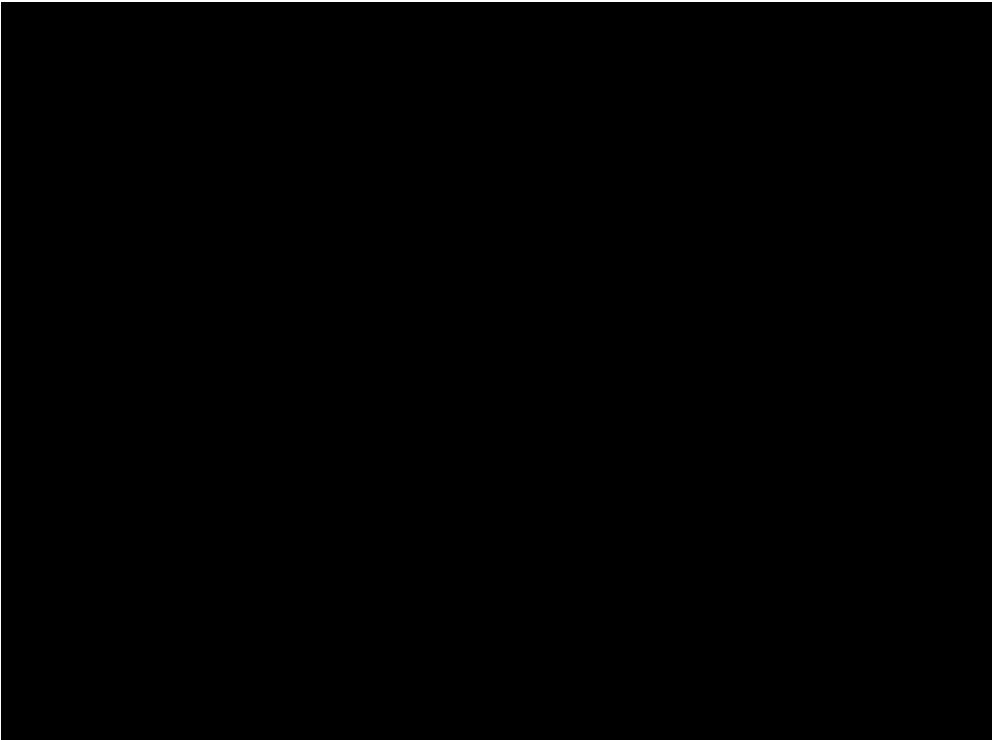
70	DATE/TIME:	10/4/2019	2:18 p.m.
	FILENAME:	DSCN0430.jpg	
	DESCRIPTION:	North cover on sump at lift station north of aboveground API Separator near pump P-8005 Lift Basin Pump. Visible emissions observed with FLIR infrared camera.	
	TAKEN BY:	Debbie Ford	

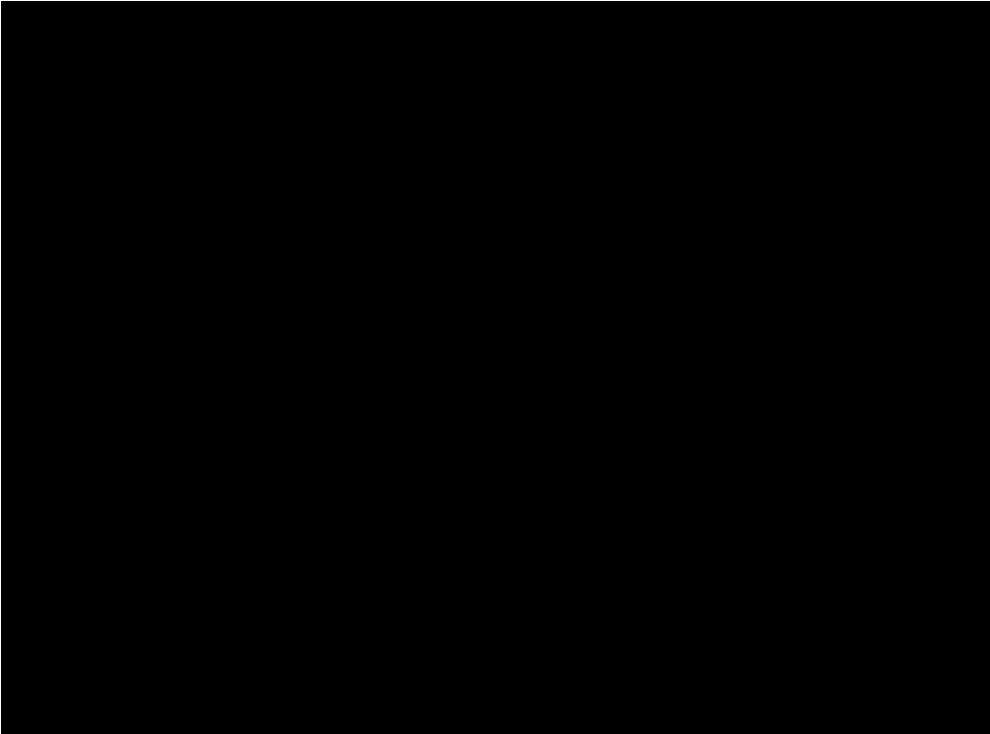


71	DATE/TIME:	10/4/2019	2:20 p.m.
	FILENAME:	DSCN0431.jpg	
	DESCRIPTION:	West cover on sump at lift station north of aboveground API Separator near pump P-8005 Lift Basin Pump. Visible emissions observed with FLIR infrared camera.	
	TAKEN BY:	Debbie Ford	

			
72	DATE/TIME:	10/4/2019	2:41 p.m.
	FILENAME:	DSCN0406.jpg	
	DESCRIPTION:	Cover at new sump installed in 2012 for receipt of all wastewater from the facility. Visible emissions observed with the FLIR infrared camera from the sump cover.	
	TAKEN BY:	James Haynes	

			
73	DATE/TIME:	10/4/2019	2:47 p.m.
	FILENAME:	DSCN0434.jpg	
	DESCRIPTION:	New carbon canister system: Carbon Filter D-8001 on left and D-8000 on the right.	
	TAKEN BY:	Debbie Ford	

			
74	DATE/TIME:	10/4/2019	2:47 p.m.
	FILENAME:	DSCN0407.jpg	
	DESCRIPTION:	Cover at new sump installed in 2012 for receipt of all wastewater from the facility. Visible emissions observed with the FLIR infrared camera from the sump cover.	
	TAKEN BY:	James Haynes	

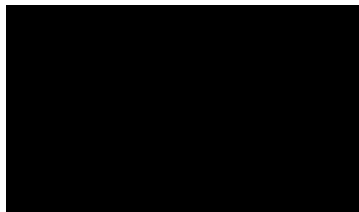
			
75	DATE/TIME:	10/4/2019	2:52 p.m.
	FILENAME:	DSCN0408.jpg	
	DESCRIPTION:	New carbon canisters that control the new sump installed in 2012.	
	TAKEN BY:	James Haynes	



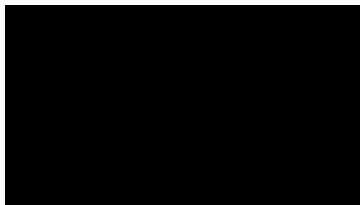
76	DATE/TIME:	10/4/2019	3:04 p.m.
	FILENAME:	DSCN0409.jpg	
	DESCRIPTION:	Junction box at bundle cleaning area west of the wastewater system. Slight visible emissions observed with FLIR infrared camera from end of gooseneck pipe on the lid.	
	TAKEN BY:	James Haynes	

Appendix 2

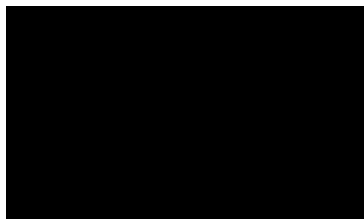
Video Log



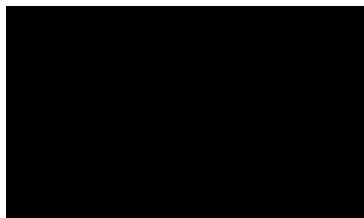
Video Number: 1
Video File Name: [REDACTED]
Date of Video: 10/02/2019
Time of Video: 15:35
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 124 at vent



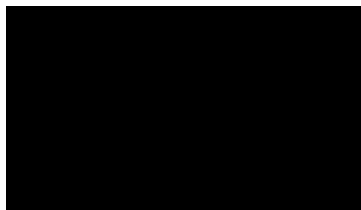
Video Number: 2
Video File Name: [REDACTED]
Date of Video: 10/02/2019
Time of Video: 16:21
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from the west aboveground API separator at roof seals



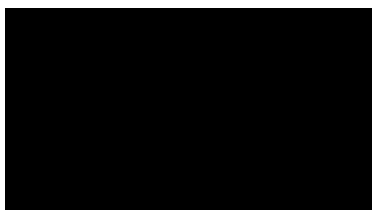
Video Number: 3
Video File Name: [REDACTED]
Date of Video: 10/02/2019
Time of Video: 16:22
Videographer: James Haynes
Description: Video from a different angle than Video No. 2 of hydrocarbon emissions observed with the FLIR camera from the west aboveground API separator



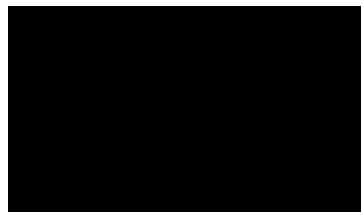
Video Number: 4
Video File Name: [REDACTED]
Date of Video: 10/02/2019
Time of Video: 16:26
Videographer: James Haynes
Description: Additional view from a higher angle than Video Nos. 2 and 3 of hydrocarbon emissions observed with the FLIR camera from the west aboveground API separator



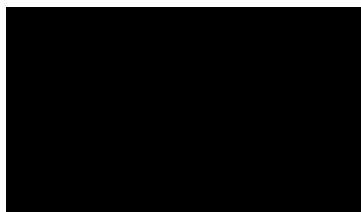
Video Number: 5
Video File Name: [REDACTED]
Date of Video: 10/02/2019
Time of Video: 16:30
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from the west side of the east aboveground API separator roof seals



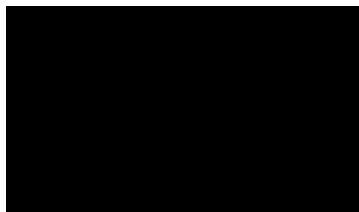
Video Number: 6
Video File Name: [REDACTED]
Date of Video: 10/02/2019
Time of Video: 16:33
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from the east side of the west aboveground API separator roof seals



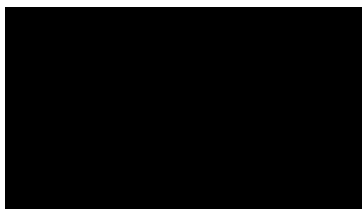
Video Number: 7
Video File Name: [REDACTED]
Date of Video: 10/02/2019
Time of Video: 16:37
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from the east side of the east aboveground API separator roof seals near the vapor collection system



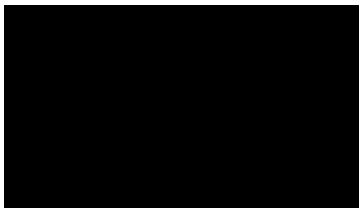
Video Number: 8
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 09:50
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 11 at vent



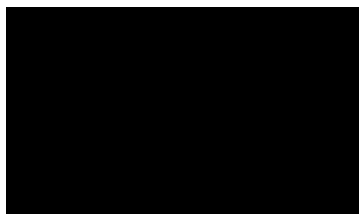
Video Number: 9
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 10:02
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 12 at vent



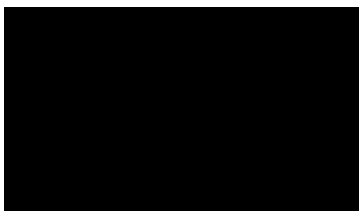
Video Number: 10
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 10:20
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 108 at vent



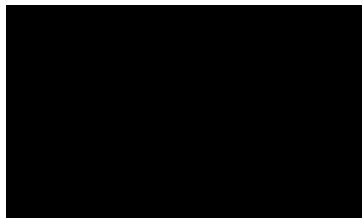
Video Number: 11
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 10:30
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 415 at vent



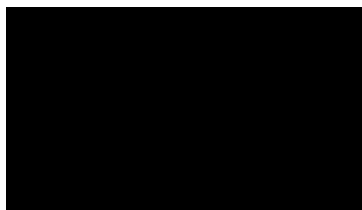
Video Number: 12
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 10:36
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 109 at vent



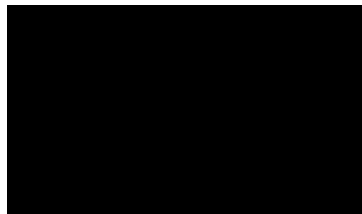
Video Number: 13
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 10:42
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 108 at vent



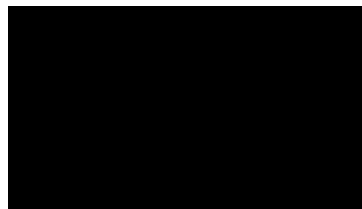
Video Number: 14
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 11:09
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 401 along secondary seal viewing right from the tank's platform



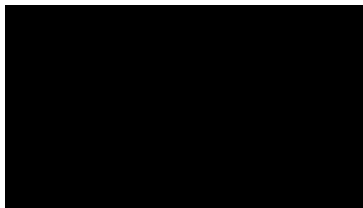
Video Number: 15
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 11:10
Videographer: James Haynes
Description: Additional hydrocarbon emissions observed with the FLIR camera from Tank 401 along secondary seal viewing right from the tank's platform



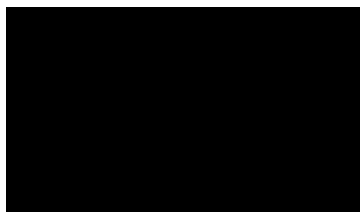
Video Number: 16
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 11:11
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 401 along secondary seal across from the tank's platform



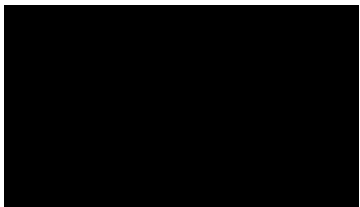
Video Number: 17
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 11:13
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 401 along secondary seal viewing left from the tank's platform



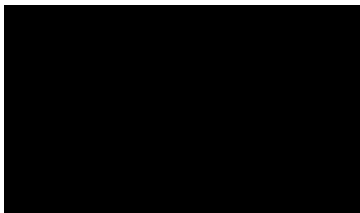
Video Number: 18
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 11:14
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 401 along secondary seals below the tank's platform



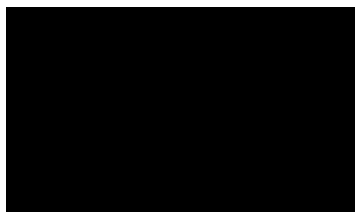
Video Number: 19
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 11:16
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 401 along secondary seal below the tank's platform



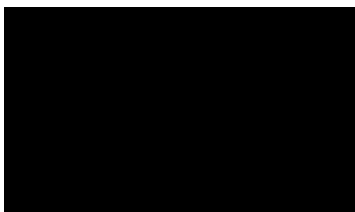
Video Number: 20
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 11:47
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 1225 along secondary seal viewing left of the tank's platform



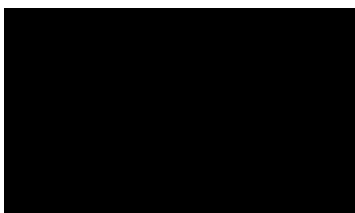
Video Number: 21
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 11:48
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 1225 along secondary seal below the tank's platform



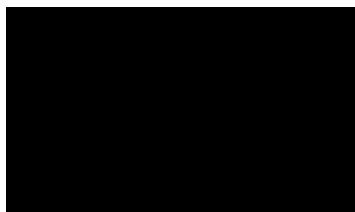
Video Number: 22
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 11:50
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 1225 along secondary seals below the tank's platform



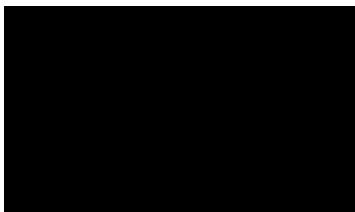
Video Number: 23
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 12:00
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from fixed roof Tank 431 at vent



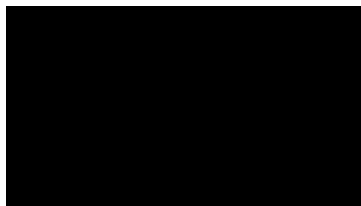
Video Number: 24
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 12:05
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from fixed roof Tank 432 at vent



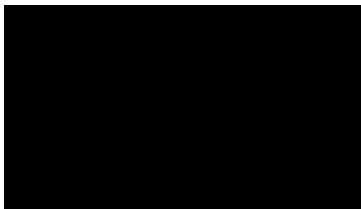
Video Number: 25
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 12:07
Videographer: James Haynes
Description: Potential hydrocarbon emissions observed with the FLIR camera from fixed roof Tank 432 at area to left of vent near stained insulation



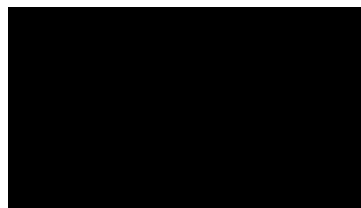
Video Number: 26
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 12:15
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from fixed roof Tank 434 at vent



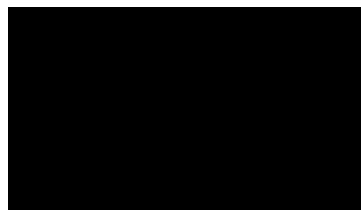
Video Number: 27
Video File Name: [REDACTED]
Date of Video: 10/03/2019
Time of Video: 12:20
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 417 at vent



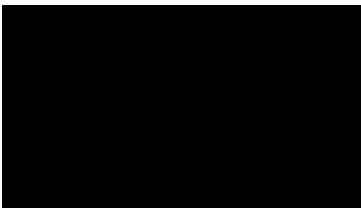
Video Number: 28
Video File Name: [REDACTED]
Date of Video: 10/04/2019
Time of Video: 09:46
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 401 along the base of the tank



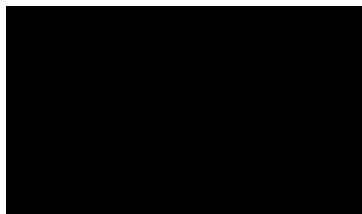
Video Number: 29
Video File Name: [REDACTED]
Date of Video: 10/04/2019
Time of Video: 10:03
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 401 at the closed water draw valve



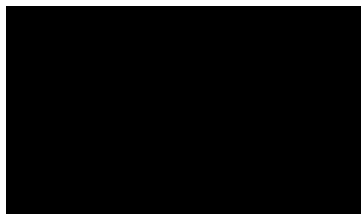
Video Number: 30
Video File Name: [REDACTED]
Date of Video: 10/04/2019
Time of Video: 10:09
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 401 along the base of the tank



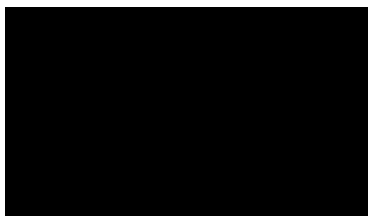
Video Number: 31
Video File Name: [REDACTED]
Date of Video: 10/04/2019
Time of Video: 10:14
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from Tank 401 along the base of the tank (without the Praxiar sample ports)



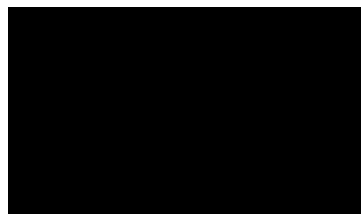
Video Number: 32
Video File Name: [REDACTED]
Date of Video: 10/04/2019
Time of Video: 11:20
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from LDAR Tag # 2720-000 in Unit 30 (Sulfur Recovery Unit #2); component has been on DOR since 2009



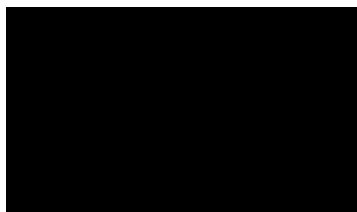
Video Number: 33
Video File Name: [REDACTED]
Date of Video: 10/04/2019
Time of Video: 14:20
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from the north cover on the sump at the lift station north of the aboveground API separator (near pump P-8005 Lift Basin Pump)



Video Number: 34
Video File Name: [REDACTED]
Date of Video: 10/04/2019
Time of Video: 14:24
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from the west cover on the sump at the lift station north of the aboveground API separator (near pump P-8005 Lift Basin Pump).



Video Number: 35
Video File Name: [REDACTED]
Date of Video: 10/04/2019
Time of Video: 14:41
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from the cover of the new sump installed in 2012 for receipt of all wastewater from the facility; emissions from the sump are controlled by the New Carbon Canister System



Video Number: 36
Video File Name: [REDACTED]
Date of Video: 10/04/2019
Time of Video: 14:47
Videographer: James Haynes
Description: Hydrocarbon emissions observed with the FLIR camera from a second new sump cover near the New Carbon Canister System

Appendix 3

Sign-In Sheet



Meeting with: **HollyFrontier Navajo Refining / Artesia Refinery**
 Purpose of meeting: **CAA Inspection**

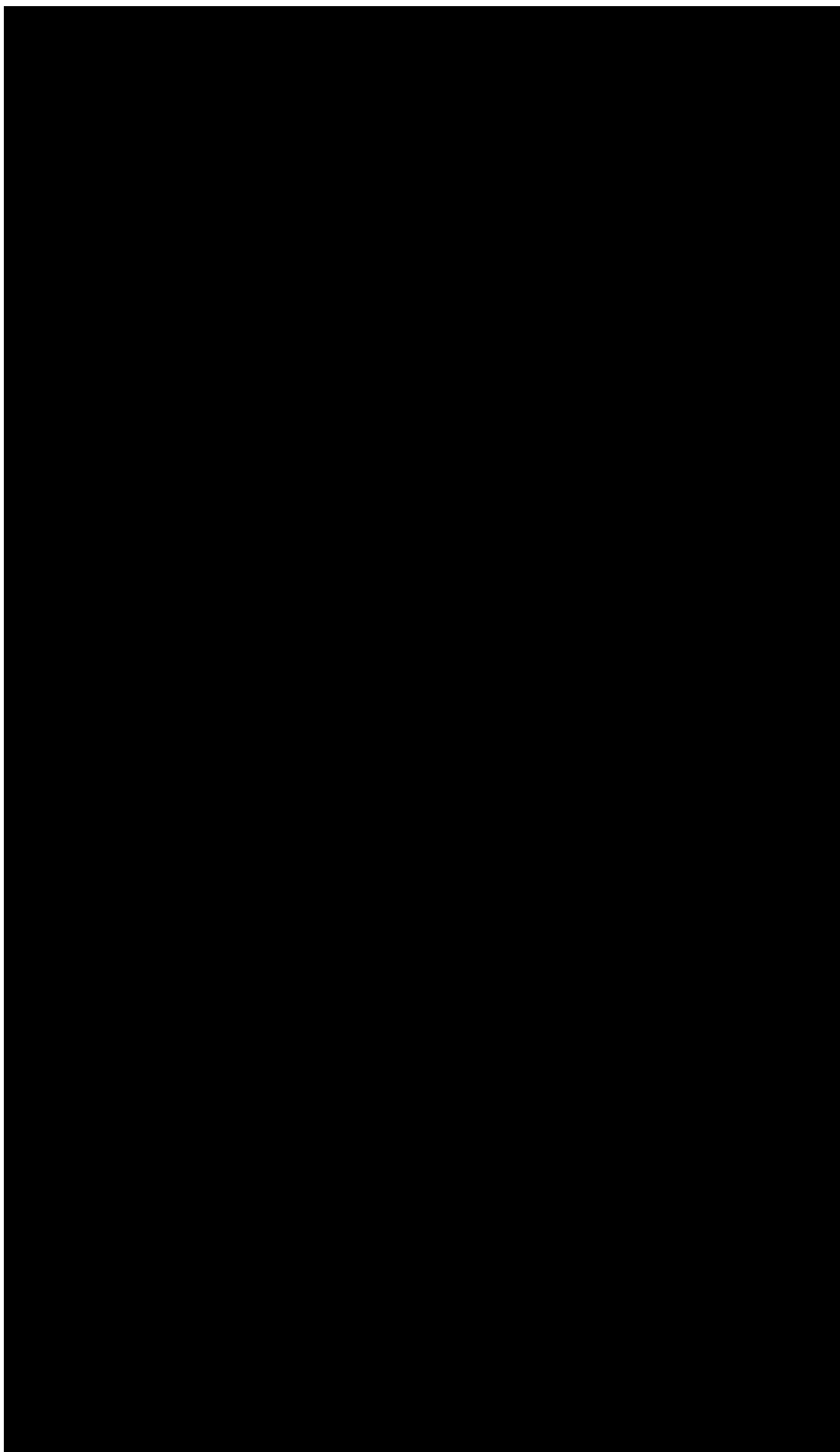
October 1-4, 2019

	Opening Conf.	Closing Conf.	Name	Title	Representing	e-Mail	Phone
1	X	X	Debbie Ford	Env. Scientist	EPA R6	ford.debbie@epa.gov	(214) 665-7235
2	X	X	James Haynes	Env. Scientist	EPA R6	haynes.james@epa.gov	(214) 665-8546
3	X	X	SCOTT DENTON	ENVIRON. MGR.	NAVASO	SCOTT.DENTON@HOLLYFRONTIER.COM	575 746 5487
4	X		Kate Hauer	Env. Scientist	NMED	Kate.hauer@state.nm.us	505 476 4362
5	X		Sherri Paul	Env. Scientist	NMED	Sherri.Paul@state.nm.us	505-476-4303
6	X		Cindy Hollenberg	Inspections Mgr	NMED-AQB	cindy.hollenberg@state.nm.us	(505) 476-4356
7	X	X	Ray Smarts	ENVIRONMENTAL SPECIALIST	NAVAJO	Ray.Smarts@HOLLYFRONTIER.COM	575-746-5490
8	X	X	Dan Roper	Inspector	ERG for EPA	dan.ropers@erg.com	571-329-2067
9	X		Sucheta Gokhale	CORP ENV. SPECIALIST	HFC	sucheta.gokhale@hollyfrontier.com	214-790-3127
10	X		Staci J. Hammond	Environmental Specialist	Navajo	staci.hammond@hollyfrontier.com	575 748 6710
11	X		Theresa Wheeler	Director Corp-Env	HFC	Theresa.Wheeler@hollyfrontier.com	316-305-0827
12	X		Parrish Miller	Plant Manager	HFC	Parrish.miller@hollyfrontier.com	575 748 6717
13			Martha Hamre	Chem. Eng.	EPA-NEIC	hamre.martha@epa.gov	303-462-9271
14	X		Richard Helmich	Chemist	EPA NEIC	helmich.richard@epa.gov	303-462-9149
15			Johnathon Caffall	Maint Foreman	NRC	Johnathon.Caffall@hollyfrontier.com	575-513-8937
16			Chancey Dozier	Maint Superintendent	NRC	chancey.dozier@hollyfrontier.com	214-263-2736
17			Jolynn Schneider	Lab Manager	NRC	jolynn.schneider@hollyfrontier.com	575-748-6741
18			Michael Figueroa	Inspection Intern	NRC	Michael.Figueroa@hollyfrontier.com	575-405-8332
19			ARMAND KARR	INSP. Supt	NRC	ARMAND.KARR@hollyfrontier.com	575-308-3857
20			Robert Boers	ORMS Manager	NRC	Robert.Boers@HollyFrontier.com	575-746-5248
21	X		Robert Combs	Env. Specialist	NRC	Robert.Combs@hollyfrontier.com	575-746-5582
22	X		Ray Basherran	Counsel for HFC	HFC	Ray.Basherran@hollyfrontier.com	214-871-3825
23	X		Tom Shetrina	Sr VP Refining Operations	HFC	Thomas.Shetrina@hollyfrontier.com	214-871-3571
24							
25							

Appendix 4

West Tank Area

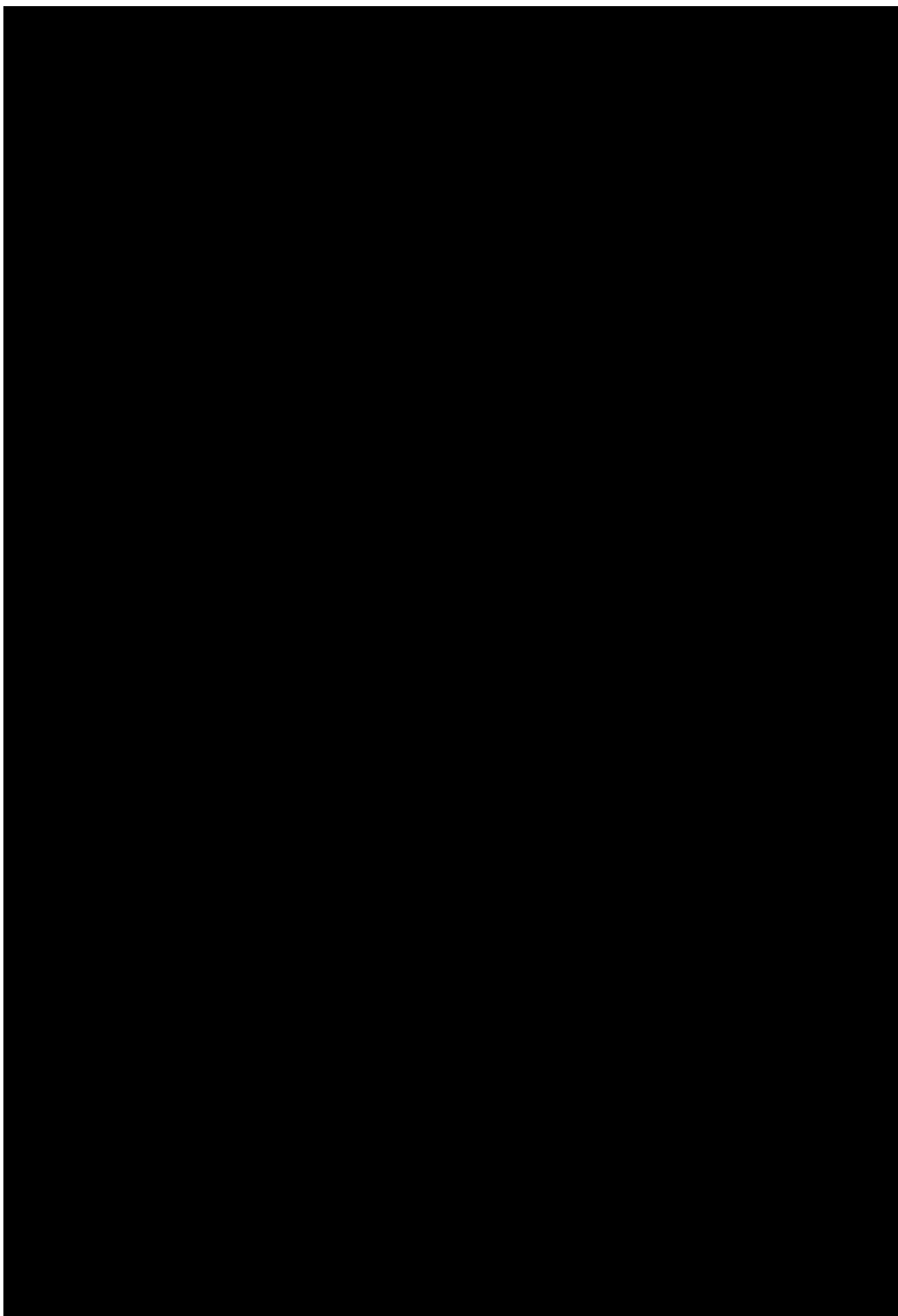
West Tank Area near Fenceline Monitoring Sites 13, 14, 15



Appendix 5

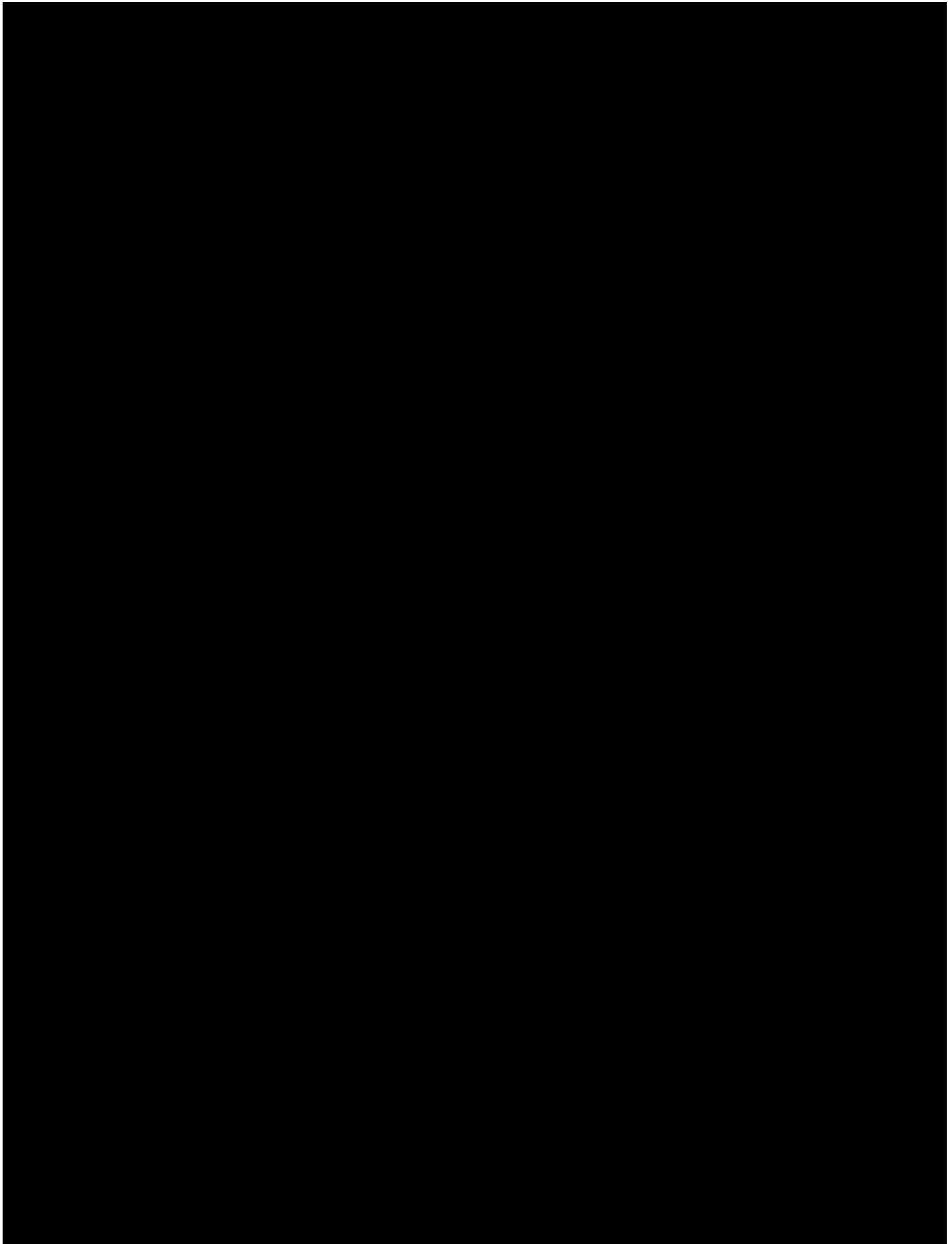
North Center (Wastewater) Area

North Center (Wastewater) Area near Fenceline Monitoring Points 19, 1



Appendix 6

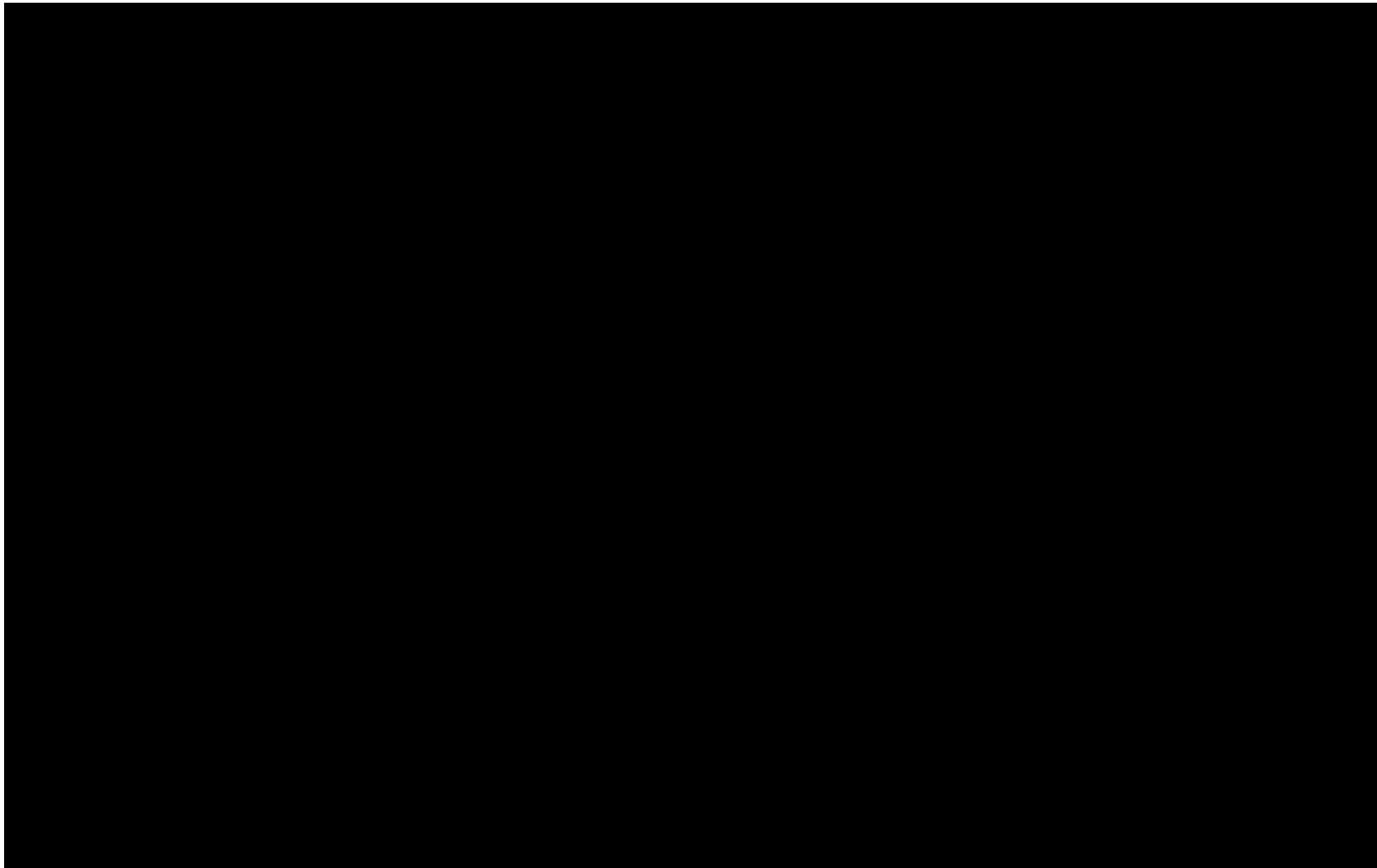
East Tank Area



Appendix 7

South Tank Area

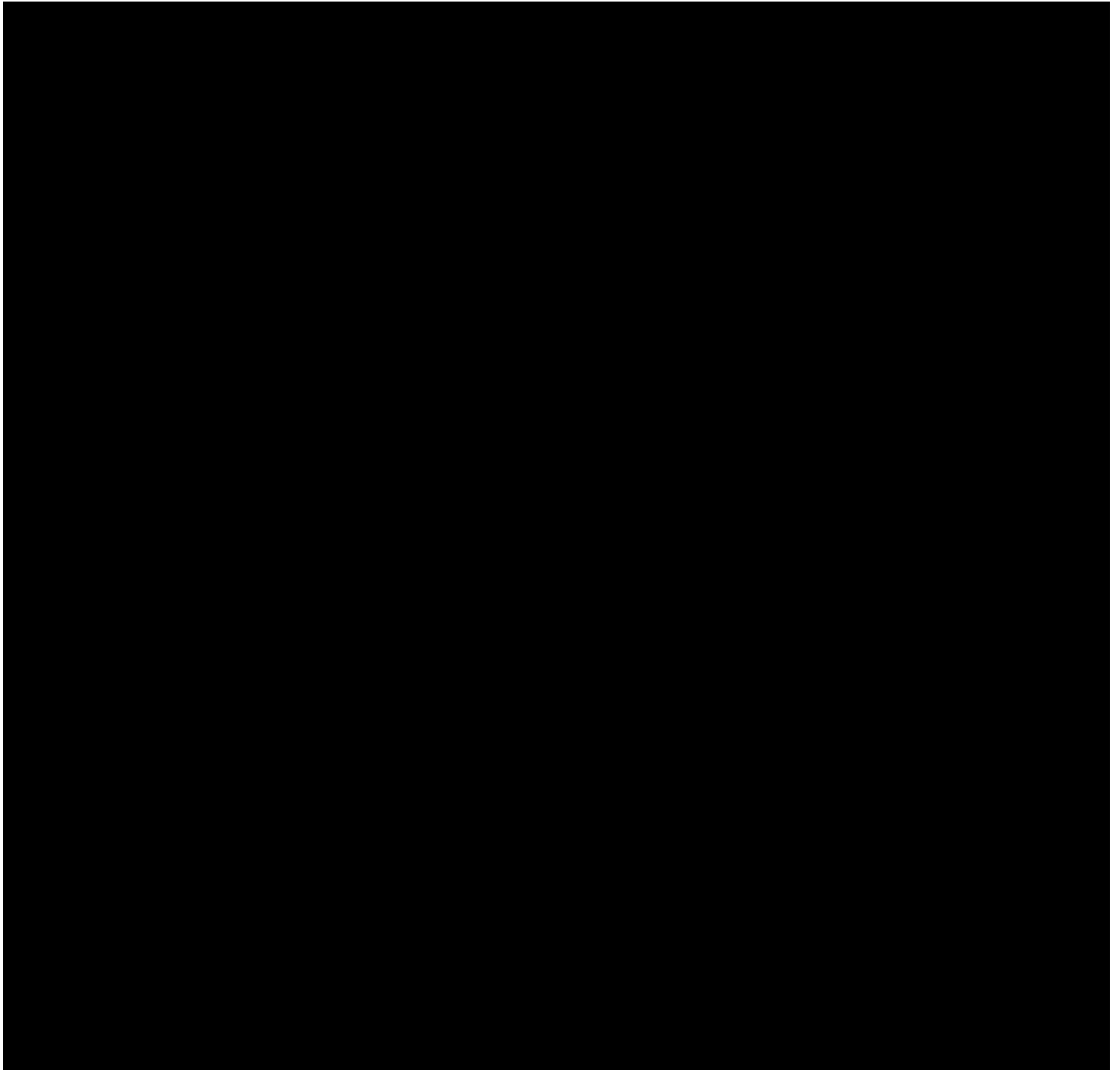
South Tank Area near Fenceline Monitoring Sites 8, 9, 10, 11, 12



Appendix 8

Center Tank Area

Center Tank Area near Fenceline Monitoring Points 13, 14, 5, 6





Received
MAY 17 2019
Air Quality Bureau

May 15, 2019

Bureau Chief
Air Quality Bureau
New Mexico Environmental Department
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505

Certified Mail/Return Receipt

7014 3490 0000 6269 5420

RE: Corrective Action Plan for Artesia Refinery Describing Fenceline Benzene Monitoring Root Cause Analyses and Corrective Actions

HollyFrontier Navajo Refining LLC (Navajo) is submitting this letter for the Artesia, New Mexico Refinery pursuant to the requirements of the National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries (MACT CC) at 40 CFR 63.658(h). The MACT CC compliance period for collecting fenceline benzene monitoring data began on January 30, 2018. In October 2016, Navajo proactively began collecting fenceline benzene monitoring data as part of a pilot study to evaluate site conditions prior to the beginning of applicable compliance period for MACT CC. A site map providing the layout of the facility and the fenceline monitoring locations is provided as Figure 1 (attached).

40 CFR 63.658(f)(2) provides that the owner or operator shall calculate the annual average difference between highest and lowest benzene concentrations as measured at the fenceline based on the average of the 26 most recent 14-day sampling periods. (EPA refers to the difference between highest and lowest 2-week (14-day) benzene concentrations reported at the facility fenceline as “ Δc .”)¹ Navajo collected the 26th 14-day period sample needed to calculate the annual average benzene concentration at the fenceline (*i.e.*, the annual average Δc) on January 29, 2019, and received the results on February 5, 2019. The results showed benzene concentrations above the annual average action level of 9 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), triggering the root cause analysis and corrective action requirements of 40 CFR 63.658(g). Even prior to this, Navajo implemented a number of activities beginning in 2017 and 2018 to evaluate potential sources at the facility of the benzene detected during the pilot study, and implemented several corrective actions for the identified sources, including during the 2018 compliance period (January 30, 2018 – January 30, 2019). These activities, once implemented, reduced the 14-day benzene concentrations at the fenceline (Δc) to below the level of 9 $\mu\text{g}/\text{m}^3$ during the latter portion of the 2018 compliance period, with one exception.² The following provides a summary of the root cause analyses and corrective actions implemented.

April 2017 Root Cause Analysis

Data from March 2017, prior to the applicable compliance period under MACT CC, for fenceline monitoring locations 5 through 10, and 13 through 16, indicated that the 14-day sampling period benzene concentrations were above 9 $\mu\text{g}/\text{m}^3$. Navajo conducted a FLIR camera survey of storage tanks near these fenceline monitoring locations in April 2017, to assess the potential that any of these tanks might be a source of the monitored benzene. Specifically, the following were surveyed: the #3 Blender and Tanks 57, 401, 450, 111, 417, 418, and 434. The location of Tank 57 correlated to benzene detected at fenceline monitoring locations 13 through 16. The locations of Tanks 401 and 450 correlated to benzene detected at fenceline monitoring locations 5 through 7. The blending pit, and Tanks 111, 417, 418, and 434 were evaluated in the May 2017 root cause analysis

¹ 40 CFR 63.658(f)(1); 83 Fed. Reg. 15458, 15466 (Apr. 10, 2018).

² This was in January 2019 and correlated with maintenance work on one tank (Tank 11). Steps are being taken to minimize emissions during future tank maintenance.

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May 15, 2019
Page 2

below. As a result of this root cause analysis, Navajo worked with TANCO Engineering, Inc. ("TANCO") to install socks on the vacuum breakers and roof legs to reduce emissions from Tanks 57, 401, and 450 in December 2017. See corrective actions implemented in December 2017.

May 2017 Root Cause Analysis

To further evaluate potential sources of benzene emissions, Navajo set out four temporary sample locations (TS1 through TS4) for a 14-day period in the vicinity of the other units surveyed in April 2017. As noted above, these were the #3 Blender and Tanks 111, 417, 418, and 434. Benzene detection levels at TS1-TS4 were as follows: TS1 = 19, TS2 = 6.3, TS3 = 15, TS4 = 17 (in $\mu\text{g}/\text{m}^3$). During the sampling period, however, wind direction was highly variable, making it difficult to validate that these units were contributing sources of the observed benzene detected at these sample locations. Benzene concentrations at fenceline monitoring locations 8 through 10, which may correlate to these units, dropped below $9 \mu\text{g}/\text{m}^3$ in subsequent 14-day sampling periods, from May 2, 2017 through August 22, 2017, the hottest time of the year. Additionally, benzene concentrations for monitoring locations 8 and 9 continued to be below $9 \mu\text{g}/\text{m}^3$ throughout most of 2017-2018, with intermittent sampling data above this level. As a result, Navajo did not identify these tanks as primary sources of benzene concentration at the fenceline.

September 2017 Root Cause Analysis

Navajo set out four additional temporary sample locations (TS5 through TS8) for a 14-day period to undertake further evaluation of potential benzene sources, focusing on Tanks 56, 57, 802, and 737. The samples were placed adjacent to these tanks, and the resulting monitoring data was as follows: Tank 56 (TS5 = $48 \mu\text{g}/\text{m}^3$), Tank 57 (TS6 = $318 \mu\text{g}/\text{m}^3$), Tank 802 (TS7 = $359 \mu\text{g}/\text{m}^3$), and Tank 737 (TS8 = $248 \mu\text{g}/\text{m}^3$). The primary wind direction during this sample period was from the south-southeast. Taking into account wind direction, the detected benzene concentrations from these temporary sampling locations indicate that Tank 57 may be the primary source of benzene in this area.

December 2017 Corrective Action

As a follow-up to the April 2017 root cause analysis, described above, and to address hydrocarbons detected from Tanks 57, 401, and 450, between June and November 2017, Navajo engaged TANCO to review the configuration of the tanks to determine the number of socks needed, evaluate design options, complete fabrication of the selected design, and coordinate installation of the socks. In December 2017, TANCO installed socks on the vacuum breakers and roof legs to reduce potential emissions from Tanks 57, 401, and 450. Based on subsequent fenceline benzene sample results, these socks appear to have been effective in reducing benzene concentrations for Tanks 401 and 450, but not as similarly effective for Tank 57.

July 2018 Corrective Action

Subsequent to the December 2017 corrective action, Navajo worked with TANCO to design and install a more effective sock for the vacuum breaker on Tank 57. In July 2018, the newly designed sock was installed on Tank 57. Although data from the subsequent 14-day sample periods showed reduction in benzene concentrations associated with Tank 57, the difference in benzene concentrations at the fenceline (Δc) remained above $9 \mu\text{g}/\text{m}^3$.

August 2018 Corrective Action

In determining potential further options for reducing benzene concentration near Tank 57, Navajo identified that a heat exchanger intended to cool the product entering Tank 57 was not sufficiently cooling the incoming feed. This heat exchanger was repaired in August 2018, which resulted in reduction of the temperature entering Tank 57 from 100°F to approximately 80°F . Over the next several 14-day sampling periods, benzene

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May 15, 2019
Page 3

concentrations detected at monitoring location 14, which may correlate to Tank 57, reduced significantly but were still above $9 \mu\text{g}/\text{m}^3$.

November 2018 Root Cause Analysis

Navajo set out three temporary sampling locations (T13A, T14A, and T14B) in the vicinity of Tank 57 to evaluate the area for other potential benzene sources after the heat exchanger repair significantly reduced benzene levels as described above. Detections from these locations indicated that Tank 57 may be the primary benzene source in this area. One additional temporary sample location (T10A) was placed north of fenceline sample location 10 to evaluate potential sources that may have intermittently been causing benzene detections at this fenceline sample location. The benzene detected at temporary sample location T10A, which is closer to Tank 57, showed approximately two times the numbers observed at sampling location 10.

November 2018 Corrective Action

In November 2018, Navajo evaluated the possibility of removing Tank 57 from service. Tank 57 is a holding tank that serves as an important flow regulator for feed from the upstream Naphtha Hydrotreating units prior to the feed entering the "BenFree," Unit (Unit 20), and there are no other tanks in line that could substitute for Tank 57. Unit 20 produces high-octane components and reduces the benzene content of light naphtha feed for the commercial gasoline pool. Removing Tank 57 from service would require running feed directly from the upstream NHT units to Unit 20 and would create operational challenges for the refinery because of the need to operate Unit 20 at a controlled rate, while the flow rate of units upstream that would feed directly into the ISOM unit fluctuate. Notwithstanding this, on November 20, 2018, following steps to enable operation without Tank 57, (including steps that would allow certain components to act as flow buffers), Navajo temporarily removed Tank 57 from service (leaving approximately 15 feet of product in the tank, short of landing the roof) to evaluate whether detected benzene levels would fall below $9 \mu\text{g}/\text{m}^3$. Since November 2018, and for the remainder of the 2018 compliance period, the 14-day fenceline benzene concentrations related to Tank 57 were below this level. Additionally, on November 26, 2018, Navajo inspected Tank 57 with a FLIR camera. After removing the tank from service, only minor vapors from one spot on the roof deck were observed.

Results of Corrective Actions and Current Status of Benzene Fenceline Monitoring

Navajo has implemented several root cause analyses and corrective actions as detailed in this document. Based on these root cause analyses, it is believed that Tank 57 was the primary source contributing to an annual average benzene concentration above the action level of $9 \mu\text{g}/\text{m}^3$. Following corrective actions, Navajo's 14-day benzene concentration, Δc values, have been below $9 \mu\text{g}/\text{m}^3$ with the one exception previously described. In addition to the corrective actions presented above, Navajo reviewed its Tank 57 inspection records for the period between 2017 and 2019. Inspections for Tank 57 were performed in compliance with MACT CC Group 1 external floating roof requirements. Inspection records show that Tank 57's primary seal was inspected on January 4, 2017, and received a passing inspection. The next scheduled inspection for the primary seal is scheduled for January 4, 2022. The secondary seal on Tank 57 was also inspected on January 4, 2017, and received a passing inspection. During this inspection, however, the vacuum breaker seal was observed to be damaged. Navajo replaced the vacuum breaker seal as well as the gasketed float. As follow-up to the January 4, 2017 inspection, Tank 57's secondary seal was inspected again on January 18, 2018 and January 30, 2019, and received passing inspections.

Long-Term Corrective Action Plan

Navajo is planning to implement a long-term project (the ISOM Project) that will result in the permanent removal of Tank 57 from its current service. The ISOM Project entails changes that will improve operation of Unit 20 and further increase the octane content of the light naphtha feed and make operation of Tank 57 as a holding tank and flow regulator unnecessary. Tank 57 will no longer be needed for this service because the

Bureau Chief
May 15, 2019
Page 4

upgraded Unit 20 will be able to accommodate the variable feed rates from the upstream Naphtha Hydrotreating units without this tank. Capital expenditures for this project have been approved, and construction is currently anticipated to begin later in 2019 and to be complete in second or third quarter 2020, with startup shortly thereafter. Navajo plans to limit the use of Tank 57 until the ISOM Project is implemented, at which time Tank 57 may be removed from its current service.³ Pursuant to 40 CFR 63.658(h), Navajo is submitting this letter to the Agency as a long-term corrective action plan, because implementation of the ISOM project will require more than 45 days to implement.

If you have questions regarding this corrective action plan, please contact me at Scott.Denton@HollyFrontier.com or by phone at 575-746-5487.

Sincerely,



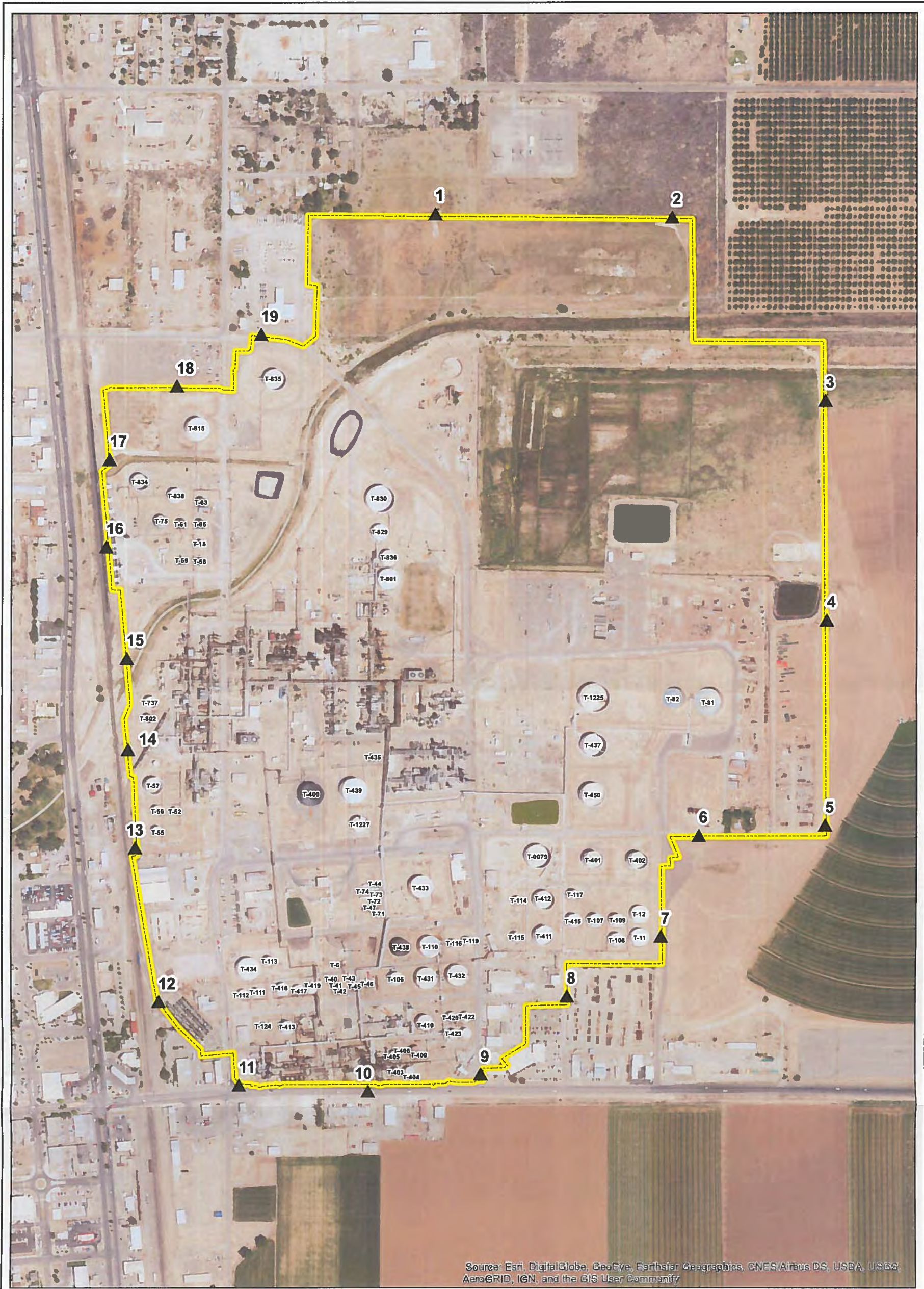
Scott M. Denton
Environmental Manager

Enclosure: Figure 1: Map of Navajo Artesia Fenceline Monitoring Locations

Cc: Chief
Air, Toxics, and Inspections Coordination Branch
Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

Electronic cc (w/enc): Navajo: P. Miller; B. Romine, R. Smalts
HollyFrontier: T. Wheeler, S. Gokhale; T. Jones, R. Bagherian
Morgan, Lewis & Bockius LLP: J. Hurwitz

³ As previously noted, Tank 57 was temporarily taken out of service on November 20, 2018. It was necessary to put the tank back into service as a holding tank in early April 2019 in connection with replacement of the catalyst in the lead reactor in the BenFree Unit. The catalyst was nearing the end of its useful life and replacement was undertaken in order to lower the benzene content of the light naphtha feed entering the commercial gasoline pool. The catalyst replacement was completed in late April, and Tank 57 levels are being drawn down so that it can again be taken out of service. This is expected to be completed as soon as practical, by end of June or earlier.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

EXPLANATION

- ▲ GPS LOCATION
- SITE BOUNDARY (320.72 ACRES)



1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 1

FENCELINE MONITORING SAMPLING STATIONS

**HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA, NEW MEXICO**



Received
JUL 05 2019
Air Quality Bureau

July 3, 2019

Bureau Chief
Air Quality Bureau
New Mexico Environmental Department
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505

Certified Mail/Return Receipt

7018 0360 0001 7923 5811

RE: Amendment to the May 15, 2019 Fenceline Benzene Monitoring Corrective Action Plan for the Artesia Refinery

HollyFrontier Navajo Refining LLC (Navajo) previously submitted a letter on May 15, 2019 for the Artesia, New Mexico Refinery pursuant to the requirements of the National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries (MACT CC) at 40 CFR 63.658(h). This letter summarized investigation activities and corrective actions implemented between April 2017 and November 2018. It also identified a long-term corrective action plan (the ISOM Project) that will result in permanent removal of Tank 57 from its current service and a schedule for the implementation of the ISOM Project. A site map providing the layout of the facility and the fenceline monitoring locations is provided as Figure 1 (attached).

Since submittal of the May 15, 2019 letter, 2-week sample event Δc values have exceeded $9 \mu\text{g}/\text{m}^3$ for the following sample periods:

- 2/26 to 3/12: sample event $\Delta c = 10.6 \mu\text{g}/\text{m}^3$
Monitoring locations 13, 14, and 15 were above $9 \mu\text{g}/\text{m}^3$
- 3/12 to 3/26: sample event $\Delta c = 12.5 \mu\text{g}/\text{m}^3$
Monitoring locations 7, 8, 9, and 10 were above $9 \mu\text{g}/\text{m}^3$
- 3/26 to 4/9: sample event $\Delta c = 54.2 \mu\text{g}/\text{m}^3$
Monitoring locations 13, 14, and 15 were above $9 \mu\text{g}/\text{m}^3$
- 4/9 to 4/23: sample event $\Delta c = 66.2 \mu\text{g}/\text{m}^3$
Monitoring locations 7, 10, 14, 15, and 16 were above $9 \mu\text{g}/\text{m}^3$
- 4/23 to 5/7: sample event $\Delta c = 203.5 \mu\text{g}/\text{m}^3$
Monitoring locations 6, 13, 14, 15, 16, and 17 were above $9 \mu\text{g}/\text{m}^3$
- 5/7 to 5/21: sample event $\Delta c = 99.0 \mu\text{g}/\text{m}^3$
Monitoring locations 14, 15, and 16 were above $9 \mu\text{g}/\text{m}^3$
- 5/21 to 6/4: sample event $\Delta c = 28.5 \mu\text{g}/\text{m}^3$
Monitoring locations 14 and 15 were above $9 \mu\text{g}/\text{m}^3$

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
(575) 748-3311 • <http://www.hollyfrontier.com>

Bureau Chief

July 3, 2019

Page 2

Because the sample event Δc was less than $9 \mu\text{g}/\text{m}^3$ before these events, an additional root cause analysis was completed to determine the source of the benzene detections. The result of evaluating these sample events indicate the above sample period Δc exceedances pertain to the temporary return of Tank 57 to service¹, combined with a damaged seal on Tank 737 and a release of hydrocarbons from Tank 106 that resulted in a damaged roof and seal. Below is a description of Tank 57/737 issues, Tank 106 issues, and corrective actions and schedules for correcting these issues. Pursuant to 40 CFR 63.658(h), Navajo is submitting this letter to the Agency as a long-term corrective action plan, because the tank cleaning and repairs will require more than 45 days to implement.

Tank 106 Issues and Corrective Actions

On March 26, 2019, there was an overflow of Tank 106, which contains a mixture of water and crude oil. The spilled hydrocarbons were excavated and removed upon discovery of the overflow. On March 29, 2019, the tank seal was inspected and found to be damaged. Planning and coordination for removing this tank from service for cleaning and repair has required more than 45 days. This tank has been isolated from service² and is scheduled to be removed from service for cleaning and repairs no later than July 12, 2019.

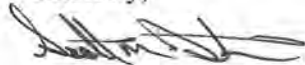
Tank 57/737 Issues and Corrective Actions

Tank 57 was temporarily taken out of service¹ on November 20, 2018. As explained in Navajo's May 15, 2019 letter, it was necessary to put the tank back into service as a holding tank on April 4, 2019 in connection with replacement of the catalyst in the lead reactor in the BenFree Unit (Unit 20). The catalyst was nearing the end of its useful life and replacement was undertaken in order to lower the benzene content of the light naphtha feed entering the commercial gasoline pool. The catalyst replacement was completed in late April, and Tank 57 levels were drawn down and the tank was isolated from service on May 24, 2015, with no product being moved into or out of the tank. Navajo plans to continue to limit the use of Tank 57 until the ISOM Project is implemented, at which time Tank 57 will be permanently removed from service as a holding tank for the BenFree Unit. Capital expenditures for this project have been approved, and construction is currently anticipated to begin later in 2019 and to be complete in second or third quarter 2020, with startup shortly thereafter.

On March 18, 2019, during routine tank inspections, Navajo identified that Tank 737 (sour water tank) has a damaged seal that may be contributing to detected benzene fenceline concentrations on the west side of the refinery. Planning and coordination for removing this tank from service for cleaning and repair has required more than 45 days. Tank 737 was isolated from receiving material on April 24th. The tank contents were emptied and removed from service with the roof being landed on June 16, 2019. The tank cleaning has been completed, allowing the primary seal on the tank to be repaired.

If you have questions regarding this corrective action plan, please contact me at Scott.Denton@HollyFrontier.com or by phone at 575-746-5487.

Sincerely,



Scott M. Denton
Environmental Manager

¹ As explained in our May 15, 2019 submittal, Tank 57 was taken out of service on November 20, 2018 by lowering the liquid level in the tank and leaving approximately 15 feet of product, short of landing the roof.. During this time, product was not moved into or out of the tank.

² By isolation from service, we mean that product remains in Tank 106, but it is not being moved into or out of the Tank.

Bureau Chief

July 3, 2019

Page 3

Enclosure: Figure 1: Map of Navajo Artesia Fenceline Monitoring Locations

Cc: Chief
Air, Toxics, and Inspections Coordination Branch
Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

Electronic cc (w/enc): Navajo: P. Miller; B. Romine, R. Smalts
HollyFrontier: T. Wheeler, S. Gokhale; T. Jones, R. Bagherian
Morgan, Lewis & Bockius LLP: J. Hurwitz



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User community

EXPLANATION ▲ GPS LOCATION --- SITE BOUNDARY (320.72 ACRES)				Trihydro CORPORATION 1252 Commerce Drive Lawrence, WV 22070 www.trihydro.com (P) 307.745.7474 (F) 307.745.7729		FIGURE 1 FENCELINE MONITORING SAMPLING STATIONS HOLLYFRONTIER NAVAJO REFINING LLC ARTESIA, NEW MEXICO	
Drawn By: CF	Checked By: JS	Scale: 1" = 500'	Date: 11/17/16	File: HF_Navajo_FencelineMonitoring.mxd			



September 3, 2019

Bureau Chief
Air Quality Bureau
New Mexico Environmental Department
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505

Certified Mail/Return Receipt

7018 1130 0000 9712 6671

RE: Amendment-2 to the May 15, 2019 Fenceline Benzene Monitoring Corrective Action Plan for the Artesia Refinery: Plan for Removal of Tank 57

HollyFrontier Navajo Refining LLC (Navajo) submits this letter to update the Fenceline Benzene Corrective Action Plan (CAP) for the Artesia, New Mexico refinery pursuant to the National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries (MACT CC) at 40 CFR 63.658(h). Specifically, this letter describes Navajo's plan to permanently remove Tank 57 from benzene-containing liquid service and follows our CAP letters of May 15, 2019 and July 3, 2019. We have identified Tank 57 as the primary source contributing to an annual average benzene concentration above the MACT CC action level of 9 micrograms per cubic meter. Based on further technical evaluation, Navajo intends to remove benzene-containing material from Tank 57 no later than September 26, 2019 with a target removal timeframe of September 12, 2019, such that the tank will not store benzene-containing liquid in the future. The Company anticipates that this action will cause benzene concentrations at the fenceline to remain below the MACT action level on a permanent basis. In addition, Navajo will implement engineering controls, and other measures, outlined below in the event the facility's BenFree Unit experiences any operational issues after Tank 57 is removed from current service.

We appreciated the opportunity to discuss the plan for disabling Tank 57 from its current service as described in this letter and the Artesia fenceline data with the U.S. Environmental Protection Agency (USEPA) and New Mexico Environment Department (NMED) on our August 27, 2019 conference call. Navajo remains committed to proactively addressing the source of benzene emissions detected at the Artesia fenceline and working cooperatively with USEPA and NMED on these issues.

Tank 57 Benzene Removal Plan and Timing

As described in our July 3, 2019, CAP letter, Navajo isolated Tank 57 from service on May 24, 2019, with no product being moved into or out of the tank. Based on further assessment at the site, Navajo has determined that Tank 57 will no longer be needed to store benzene containing streams both prior to, and after, implementation of the ISOM Project. Navajo communicated on the August 27 call with NMED and EPA that Tank 57 will have all benzene containing material removed no later than 30 days from August 27 (September 26) with a target removal timeframe of 2 weeks (September 12).

The refinery is working to safely and expeditiously stop any further benzene emissions from Tank 57. Navajo began removing material from Tank 57 on August 27 in preparation for removing the tank from the service of storing benzene containing material. The refinery intends to use a combination of nitrogen blanket and a thermal oxidizer (TO) to ensure safety and control emissions generated from emptying and refilling the tank. The next steps and controls to fully implement removal of Tank 57 from its present service include the following measures:

HollyFrontier Navajo Refining LLC
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(575) 748-3311 • <http://www.hollyfrontier.com>

Bureau Chief

September 3, 2019

Page 2

- Submit Permit Application (Administrative Revision) for use of the TO
 - Expected submittal – 9/3
 - The TO is expected onsite 9/3 and to be available for use on 9/4
- Pump remaining liquid out to blending tank 411 with the transfer pump until the pump loses suction – begin the week of 9/3
- Switch to temporary pump connected to the water draw to remove remaining liquid (sump draw)
- When the roof is set on its legs (landed), initiate a nitrogen blanket and TO controls
 - Nitrogen is used to fill the vapor space created when the roof is landed and emptied. This is to limit the amount of oxygen under the roof to eliminate the potential for a flammable atmosphere inside the tank.
 - The TO will be used to control vapors that may be emitted during the emptying process and the vapors emitted during the filling process to minimize impact to the environment.
- When removal of liquid from the water draw is complete (minimal product remains) introduce approximately 6” of Naphtha Splitter Bottoms (Hydrotreated C7+ Naphtha, which does not contain benzene) to sponge any light naphtha remaining in the tank
- Pump the sponge material out to Tank 411
- Refloat the roof with Naphtha Splitter Bottoms above the level for the vacuum breaker to seal.

Operation of BenFree Unit without Tank 57 until ISOM Project Implementation

In the event that there are operational issues with the BenFree Unit or hydrogen supply to the unit until implementation of the ISOM Project, the light naphtha stream will be routed to storage in blending tanks (typically, Tank 411). This is the current operational procedure at the refinery. Tank 411 presently stores BenFree Unit material, and material from Tank 411 is blended with other refinery products to make gasoline.

Tank 57 Seal Assessment

The call on August 27 also included a discussion of the seals on Tank 57 and assessment of the tank seals. As background, Navajo installed the current roof on Tank 57 prior to placing the tank in its current light naphtha service. Navajo intends to perform a primary seal inspection within two weeks after the roof is floated pursuant to the above plan for removal of Tank 57 from benzene-containing liquid service. During the primary seal inspection, the secondary seal will be pulled back in order to allow the inspector to inspect the entire seal fabric material and measure any gaps between the tank wall and the seal shoe. We will review the results of the primary seal inspection performed after the roof is floated and initiate any appropriate follow-up measures based on the inspection.

If you have any questions regarding this CAP update, please contact me at Scott.Denton@HollyFrontier.com or by phone at 575-746-5487. Thank you again for your consideration.

Sincerely,



Scott M. Denton
Environmental Manager

Cc: Chief
Air, Toxics, and Inspections Coordination Branch
Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

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Bureau Chief

September 3, 2019

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Electronic cc (w/enc): Navajo: P. Miller; B. Romine, R. Smalts
HollyFrontier: T. Wheeler, S. Gokhale; T. Jones, R. Bagherian
Sidley Austin LLP: A. Stewart



October 11, 2019

Bureau Chief
Air Quality Bureau
New Mexico Environmental Department
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505

Certified Mail/Return Receipt

7018 1130 0000 9712 6725

RE: Amendment-3 to the May 15, 2019 Fenceline Benzene Monitoring Corrective Action Plan for the Artesia Refinery: Plan for Removal of Tank 57

HollyFrontier Navajo Refining LLC (Navajo) submits this letter to update the Fenceline Benzene Corrective Action Plan (CAP) for the Artesia, New Mexico refinery pursuant to the National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries (MACT CC) at 40 CFR 63.658(h). Specifically, this letter describes Navajo's plan to remove Tank 57 from liquid service and follows our CAP letters of May 15, 2019, July 3, 2019 and September 3, 2019. The tank will be emptied, de-gassed and cleaned in preparation for inspection during the 4th quarter. Going forward, Navajo intends to keep Tank 57 Out-of-Service (OOS) and thus follow our applicable OOS Procedure. Additionally, Navajo intends to "air gap" the tank from process lines, which is the physical disconnecting of all process lines, such that there is a gap between the lines and the tank that can be seen visually. This will render Tank 57 fully nonoperational and will require a Management of Change (MOC) for the OOS and likewise, for any potential future use of Tank 57.

We appreciated the opportunity to discuss our plan for Tank 57 with the U.S. Environmental Protection Agency (USEPA) and New Mexico Environment Department (NMED) on our September 9, 2019 conference call. Navajo remains committed to proactively addressing the source of benzene emissions detected at the Artesia fenceline and working cooperatively with USEPA and NMED on these issues.

Tank 57 Complete API 653 Inspection

Pursuant to EPA's September 16, 2019 letter, Navajo will provide at least 30 calendar days advance notice to EPA and NMED of a complete API 653 inspection of Tank 57. Additionally, Navajo will submit the complete API 653 report to EPA and NMED within 15 days after completion of the inspection.

Tank 57 Empty, De-Gas and Clean for Inspection

Navajo communicated on the September 9th call with NMED and EPA that Tank 57 was emptied of all benzene containing material on Friday September 6th, sponge material removed on September 7th and the roof was refloated with Naphtha Splitter bottoms. The tank level was continuously raised to 8 ft. to be put on high legs. Filling ended on September 10th. Pursuant to EPA's September 16, 2019 letter, while Tank 57 is emptied and degassed, Navajo will conduct a visual inspection of the floating roof deck, deck fittings, and rim seals from both the topside and underside of the roof deck, and provide at least 30 calendar days advance notice to EPA and NMED of the inspection. Additionally, within 15 calendar days after the completion of the inspection, Navajo will submit to EPA and NMED a report of all inspection results.

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Bureau Chief
October 11, 2019
Page 2

The next steps to empty, de-gas and clean Tank 57 include the following measures:

- Mobilize thermal oxidizer (TO) to be onsite the week of 10/14.
- Pump remaining liquid out to blending tank 411 with the transfer pump until the pump loses suction – begin the week of 10/14.
- Switch to temporary pump connected to the water draw to remove remaining liquid (sump draw).
- When the roof is set on its legs (landed), initiate a nitrogen blanket and TO controls.
 - Nitrogen is used to fill the vapor space created when the roof is landed and emptied. This is to limit the amount of oxygen under the roof to eliminate the potential for a flammable atmosphere inside the tank.
 - The TO will be used to control vapors that may be emitted during the emptying process to minimize impact to the environment. A permit for this activity was received on September 20th.
- When removal of liquid from the water draw is complete (minimal product remains) introduce a diesel flush to sponge the residual naphtha remaining in the tank.
- The next flush will be water with Zymeflow chemical to sponge any naphtha remaining in the tank
- Pump the sponge material out to frac tanks
- The tank atmosphere will be checked periodically for VOCs to verify the de-gas is complete. The TO is in use until the de-gas is complete. Target is a lower explosive limit (LEL) concentration of less than 10%.
- Once the tank can be safely opened, entry will be made and cribbing installed
- Clean to remove any minor amount of liquids and solids remaining
- Tank will remain open for inspection
 - API 653 Inspection
 - Inspection of the floating rood deck, deck fittings, and rim seals

As noted above, Navajo intends to keep Tank 57 OOS and nonoperational for the near future. We will follow our OOS Procedure and air gap the tank from process lines. This will require an MOC for the OOS and likewise, prior to any future use. Additionally, Navajo will provide at least seven (7) calendar days written notice to EPA and NMED prior to any refilling of the tank.

If you have any questions regarding this CAP update, please contact me at Scott.Denton@HollyFrontier.com or by phone at 575-746-5487. Thank you again for your consideration.

Sincerely,



Scott M. Denton
Environmental Manager

Cc: Chief
Air, Toxics, and Inspections Coordination Branch
Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, TX 75270-2102

Electronic cc: Navajo: P. Miller; B. Romine, R. Smalts
HollyFrontier: T. Wheeler, S. Gokhale; T. Jones, R. Bagherian
Sidley Austin LLP: A. Stewart

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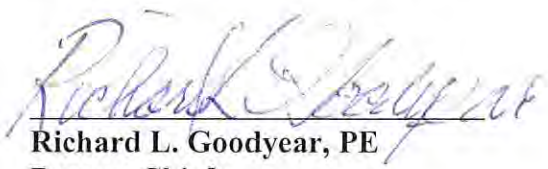
RYAN FLYNN
CABINET SECRETARY

BUTCH TONGATE
DEPUTY SECRETARY

Air Quality Bureau
TITLE V OPERATING PERMIT
Issued under 20.2.70 NMAC

Certified Mail No: 7013 2630 0000 9073 5525
Return Receipt Requested

Operating Permit No:	P051-R2
Facility Name:	Artesia Refinery
Permittee Name:	Navajo Refining Company L.L.C.
Mailing Address:	PO Box 159 Artesia, NM 88211-0159
TEMPO/IDEA ID No:	198 - PRT20130002
AIRS No:	35-015-0010
Permitting Action:	Renewal
Source Classification:	Major-TV and PSD with BACT
Facility Location:	UTMH 557021 m, UTMV 3633819 m, UTMZ 13
County:	Eddy
Air Quality Bureau Contact	Joseph Kimbrell
Main AQB Phone No.	(505) 476-4300
TV Permit Expiration Date:	<u>May 6, 2020</u>
TV Renewal Application Due:	<u>May 6, 2019</u>


Richard L. Goodyear, PE
Bureau Chief
Air Quality Bureau

May 6, 2015
Date

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PART A FACILITY SPECIFIC REQUIREMENTS

A100 Introduction

- A. PSD-NM-0195-M31 issued August 01, 2011, contained permit limits and control methods based on Best Available Control Technology (BACT).
- B. The permittee is under a Consent Decree CIV-01 1422LH Lodged 12/20/2001, Entered 3/5/2002 and referenced throughout this document as the “Consent Decree” or “CD” with reference numbers from that document.

A101 Permit Duration (expiration)

- A. The term of this permit is five (5) years. It will expire five years from the date of issuance. Application for renewal of this permit is due twelve (12) months prior to the date of expiration. (20.2.70.300.B.2 and 302.B NMAC)
- B. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate beyond the expiration date, provided that a timely and complete renewal application is submitted no later than twelve (12) months prior to the expiration date. (20.2.70.400.D NMAC)

A103 Facility: Applicable Regulations and Non-Applicable Regulations

- A. The permittee shall comply with all applicable sections of the requirements listed in [Table 103.A](#).

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
NSR Permit No: PSD 0195-M35 (Per 20.2.72 NMAC)	X	Entire Facility
20.2.1 NMAC General Provisions	X	Entire Facility
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.33 NMAC Gas Burning Equipment -- Nitrogen Dioxide	X	Affected sources in Table 103.E
20.2.36 NMAC Petroleum Refinery - Sulfur	X	Entire Facility
20.2.37 NMAC Petroleum Processing Facilities	X	Entire Facility
20.2.38 NMAC Hydrocarbon Storage Facilities	X	Entire Facility
20.2.70 NMAC Operating Permits	X	Entire Facility
20.2.71 NMAC Operating Permit Emission Fees	X	Entire Facility
20.2.72 NMAC Construction Permit	X	Entire Facility
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	Entire Facility
20.2.74 NMAC Prevention of Significant Deterioration	X	Entire Facility
20.2.77 NMAC New Source Performance	X	Units subject to 40 CFR 60
20.2.78 NMAC Emission Standards for Hazardous Air Pollutants (HAPs)	X	Units subject to 40 CFR 61
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Units subject to 40 CFR 63
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility
40 CFR 60, Subpart A, General Provisions	X	See Tables 103.B to 103.K
40 CFR 60, Subpart Db "Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units"	X	See Tables 103.B to 103.J
40 CFR 60, Subpart Dc "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, Which Construction, Reconstruction, or Modification Commenced After June 9, 1989"	X	H-0464; H-3101
40 CFR 60, Subpart J, "Standards of Performance for Petroleum Refineries"	X	See Tables 103.B to 103.J
40 CFR 60, Subpart Ja, "Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007"	X	See Tables 103.B to 103.J
40 CFR 60, Subpart K, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978"	X	See Tables 103.B to 103.J

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
40 CFR 60, Subpart Ka, “Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984”	X	See Tables 103.B to 103.k
40 CFR 60, Subpart Kb, “Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984”	X	See Tables 103.B to 103.K
40 CFR 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after January 4, 1983, and on or before November 7, 2006.	X	See Tables 103.B to 103.K
40 CFR 60, Subpart GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after November 7, 2006.	X	See Tables 103.B to 103.K
40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems	X	See Tables 103.B to 103.K
40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	X	See Tables 103.B to 103.K
40 CFR 61, Subpart A, General Provisions	X	Entire Facility
40 CFR 61, Subpart FF, National Emission Standards for Benzene Waste Operations	X	Benzene Waste Operations
40 CFR 63, Subpart A, General Provisions	X	Entire Facility
40 CFR 63, Subpart Q, National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers	X	See Table 103.F
40 CFR 63, Subpart CC	X	See Tables 103.B to 103.K
40 CFR 63 Subpart DDDDD	X	See Tables 103.B to 103.K
40 CFR 63 Subpart UUU, Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units	X	See Tables 103.B to 103.KJ
40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	X	See Tables 103.B to 103.KJ
40 CFR 68, (RMP), Section 112(r) Accidental Release	X	Entire Facility
Consent Decree CIV-01 1422LH Lodged 12/20/2001, Entered 3/5/2002	X	Entire Facility

Note: Tables 103.B through 103.L are located in Attachment D.

B. [Table 103.B, Summary Applicability – Fugitives](#)

C. [Table 103.C, Summary Applicability – Tanks](#)

- D. [Table 103.D, Summary Applicability – Loading](#)
- E. [Table 103.E, Summary Applicability – Heaters and Boilers](#)
- F. [Table 103.F, Summary Applicability – Cooling Towers](#)
- G. [Table 103.G, Summary Applicability – Wastewater](#)
- H. [Table 103.H, Summary Applicability – FCC-CCR](#)
- I. [Table 103.I, Summary Applicability – SRU](#)
- J. [Table 103.J, Summary Applicability – Engines](#)
- K. [Table 103.K, Summary Applicability – Flares](#)
- L. [Table 103.L](#) lists requirements that are **not** applicable to this facility. This table only includes those requirements cited in the application as applicable and determined by the Department to be not applicable, or the Department determined that the requirement does not impose any conditions on a regulated piece of equipment.

Table 103.L: Non-Applicable Requirements

Non-Applicable Requirements	(1)	(2)	Justification For Non-Applicability
None		X	
None	X		

1. Not Applicable For This Facility: No existing or planned operation/activity at this facility triggers the applicability of these requirements.
 2. No Requirements: Although these regulations may apply, they do not impose any specific requirements on the operation of the facility as described in this permit.
- M. Compliance with the terms and conditions of this permit regarding source emissions and operation demonstrate compliance with national ambient air quality standards specified at 40 CFR 50, which were applicable at the time air dispersion modeling was performed for the facility's NSR Permit 0195-M35.

A104 Facility: Regulated Sources

- A. [Table 104.A](#) (attached, page 68) lists the emission units authorized for this facility. Emission units that were identified as NSR exempt or Title V Insignificant activities and/or equipment not regulated pursuant to the Act are not included.

A105 Facility: Control Methods

- A. [Table 105.A](#) lists all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.

Table 105.A: Control Methods:

Control Equipment Unit No.	Control Description	BACT Yes or No	Pollutant being controlled	Control for Unit Number(s)¹
FCC Regenerator Scrubber	Fluid Catalytic Cracking Unit Regenerator Cyclones + Wet Gas Scrubber	NO	PM & SO ₂	FCC Regenerator
CHLOR SORB [®]	CCR Regenerator Vent Control	NO	Chloride	CCR Regenerator Vent
FL-0400	North Plant Flare	NO	VOC & H ₂ S	Refinery process units
FL-0401	South Plant Flare	NO	VOC & H ₂ S	Refinery process units
FL-0402	FCC Flare	NO	VOC & H ₂ S	Refinery process units
FL-0403	Alky Flare	NO	VOC	Refinery process units
FL-0404	GOH Flare	NO	VOC & H ₂ S	Refinery process units
FL-HEP-PORT	Portable Flare for Holly Energy Partners (HEP) Pipeline Pigging Operations	NO	VOC	Pipeline Pigging Operations
H-0473	Sulfur Recovery Units No. 1 & 2 Tail Gas Incinerator	NO	Sulfur	SRU1 and SRU2
SCR	Selective Catalytic Reduction + ultra-low NO _x burners	YES	NO _x	H-9851
SRU3-TGI	Sulfur Recovery Unit No. 3 Tail Gas Incinerator	YES	Sulfur	SRU3
SRU3/TGTU3/TGI3	Best Work Practices, A207.B (BACT)	YES	SO ₂	SRU3
D-0829/0830	Main API Carbon Canisters	NO	VOC	MAIN API

Table 105.A: Control Methods:

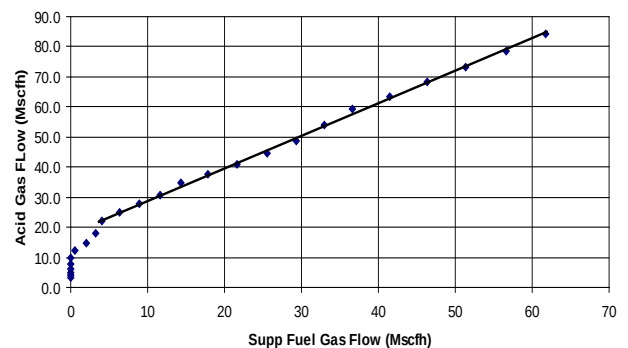
Control Equipment Unit No.	Control Description	BACT Yes or No	Pollutant being controlled	Control for Unit Number(s) ¹
Y-0011, Y-0012	Drift Eliminators on Cooling Towers (BACT)	YES	PM	Y-0011, Y-0012
T-0737, T-1225	External Floating Roofs (BACT)	YES	VOC	T-0737, T-1225
See Tables 106.B(1) and (2)	External and Internal Floating Roofs (None-BACT)	NO	VOC	See Tables 106.B(1) and (2)
B-0009	Energy Efficiency, A204.N (BACT)	Yes	Greenhouse Gases	B-0009
H-2501, H-3402, H-3101	ultra-low NOx burners (BACT)	Yes	NOx	H-2501, H-3402, H-3101
SRU-TGI, H-2501, H-3402, H-3101	Combust gaseous fuels only	Yes	VOC, PM	SRU-TGI, H-2501, H-3402, H-3101

¹ Control for unit number refers to a unit number from the Regulated Equipment List

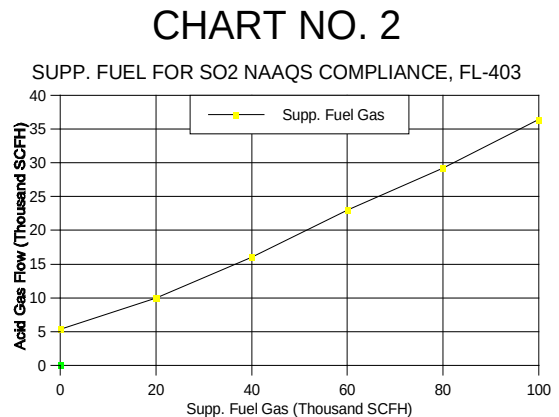
- B. In accordance with the requirement that Navajo Refining prevent exceedances of the 24-hour and 3-hour National Ambient Air Quality Standards (NAAQS) for SO₂ during major refinery malfunctions, Navajo Refining shall only flare acid gas from existing Flare FL-0403 according to Navajo Refining's "Phase Two" plan dated January 5, 1996 and received by the Department on January 8, 1996, or from Flare FL-0400. Navajo shall undertake the following measures for acid gas flaring from FL-0400 and FL-0403.

- (1) Existing Flare FL-0400 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough heat to supplement the heat released by combustion of the acid gas itself and the heat provided by smoke-suppressing steam. The minimum flow rate of supplemental fuel gas to be supplied during acid gas flaring such that compliance with the NAAQS for SO₂ is assured shall be determined using Chart No. 1. The fuel gas used for this purpose shall be natural gas (see definition at C101.F).

CHART NO. 1
SUPP FUEL FOR SO₂ NAAQS COMPLIANCE, FL-400



- (2) Existing Flare FL-0403 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough supplemental heat. The volume of supplemental fuel gas to be provided to generate enough supplemental heat to ensure compliance with NAAQS for SO₂ shall be determined using Chart No. 2. The supplemental heat to be provided when flaring the maximum quantity of acid gas has been determined to be 52.9 million BTU per hour which is generated by burning 96,200 SCFH of supplemental fuel gas. This assumption has been made to ensure compliance with the NAAQS for SO₂. The fuel gas used for this purpose shall be natural gas (see definition at C101.F).



- C. Beginning December 20, 2001 no fuel oil shall be burned in combustion units except as follows: (CD ¶17.C)
- (1) Torch Oil may be burned in the FCC Regenerator during FCC start-ups; and.
 - (2) Fuel Oil may be burned in combustion units after the establishment of FCC NO_x emissions limits pursuant to permit condition A110.A, provided that emissions from any such combustion units are routed through the FCC Wet Gas Scrubber and Navajo demonstrates, with the approval of EPA, that the NO_x emissions limits contained therein and the SO₂ emissions limits stated in A106.A and A107.A will continue to be met.
- D. The Artesia Refinery FCC was initially limited to less than 20,000 BPD capacity. Following the December 2003 expansion of the Artesia refinery's FCC as authorized by permit 195-M15, the catalyst regenerator for the FCC is subject to the minimum requirements for continuous emission monitoring and recording set forth in Appendix P to 40 CFR Part 51. Consent Decree Paragraph 15 required the FCC to be subject to NSPS Subpart J for opacity as of December 31, 2003. A wet gas scrubber was installed in 2003. An Alternative Monitoring Plan (AMP) request was submitted to EPA on December 31, 2003 because a continuous opacity monitoring system (COMS) will not work on a wet gas scrubber exhaust because of the interference from the water vapor. The AMP satisfies the requirements for both NSPS Subpart J and 40 CFR Part 51 Appendix P.

A106 Facility: Allowable Emissions

- A. The following Section lists the emission units, and their allowable emission limits.
(See [Table 103.A](#) for all applicable regulations)

Table 106.A: Allowable Emissions (See Part D, and page 82)

B. The permitted emission sources at the refinery shall consist only of the sources listed in Table 106.A and Tables 106.B through 106.I of this permit.

C. Compliance with Allowable Emission Limits

Requirement: The allowable mmBtu/hr, lb/mmBtu, lb/hr, and tpy emission limits for equipment listed in Table 106.A construction of which predates the effective date of 20.2.72 NMAC (August 31, 1972), and have not been modified since August 31, 1972, shall be the "potential emission rate" of that unit as defined in 20.2.72.107 NMAC and the potential to emit of that unit defined under 20.2.74 NMAC.

The mmBtu/hr, lb/hr and lb/mmBtu limits are based on an hourly rolling 3-hour average. (NSR 0195M35, Condition A106.C and revised)

Monitoring: For units with lb/mmBtu emission limits in Table 106.A, the Permittee shall monitor the lb/mmBtu to demonstrate compliance with the mmBtu/hr, lb/hr, and tpy emission limits.

Recordkeeping: To demonstrate compliance, records shall be kept showing the correlation between lb/mmBtu and the mmBtu/hr and lb/hr, and the monthly rolling 12-month tpy totals.

The records shall also document any non-compliance with emission limits.

For each unit, a summary of the method used to determine compliance shall be recorded.

The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

- D. BACT SO₂ Limit – Fuel sulfur limit Refinery-Wide for all units burning refinery fuel gas (excluding units H-8801, H-8802 and H-9851 which burn only natural gas) shall not exceed 60 ppmv H₂S on a daily rolling 365-day average. The ton/yr emission rates for SO₂ in Table 106.A of this permit are based on this daily rolling 365-day average 60 ppmv H₂S limit. Compliance with this limit shall be demonstrated per the methods described in Condition A110.A.
- E. BACT NO_x Limit - In addition to the emission limits shown in Table 106.A, Boiler Unit B-0009 has a BACT NO_x limit of 0.02 lb/MM Btu, and CO₂ limit of 112.1 lb/MM Btu.
- F. BACT SO₂ Limit – The Sulfur Recovery Unit No. 3 Tail Gas Incinerator (SRU3-TGI) is limited to 192 ppmvd SO₂ at zero percent oxygen on a hourly rolling 12-hour average basis. In addition, SRU3-TGI is limited to 192 ppmvd SO₂ at zero percent oxygen on a daily rolling 365-day average basis.
- G. BACT VOC Limit – The naphtha storage tank T-1225 and sour water storage tank T-0737 shall be equipped with an external floating roof using double seals to reduce VOC emissions to the atmosphere. The maximum true vapor pressure of any volatile organic

liquid stored in either tank shall not exceed 11.0 psia. Demonstration of compliance is through the NSPS Kb and MACT emission limits.

- H. VOC – All fugitive piping components in VOC service associated with the process units proposed in Permit 195-M25 (Units FUG-25-ROSE-2, FUG-31-SRU3/TGI3/TGI3, and FUG-34-Hydorcracker) shall be monitored under the MACT subpart CC leak detection and repair program, or an approved equivalent program, to reduce VOC emissions.
- I. VOC – Consistent with MACT Subpart CC, the gasoline truck loading rack (TLO-4) shall be limited to 10 mg of VOC emissions per liter of gasoline loaded.
- J. PM10 – Cooling towers, Units Y-0011 and Y-0012, shall be equipped with high-efficiency drift eliminators to reduce PM10 emissions. Demonstration of compliance is through annual inspection in accordance with in Condition A212.B.

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions

- A. The maximum allowable SSM and Malfunction emission limits for this facility are listed in [Table 107.A](#) and were relied upon by the Department to determine compliance with applicable regulations.

Table 107.A: Allowable SSM and Malfunction Emissions Units, Activities, and Emission Limits (See Part D, and page 92)

- B. The authorization of emission limits for startup, shutdown, maintenance, and malfunction does not supersede the requirements to minimize emissions according to Conditions B101.C and B107.A.

C. SSM Flaring and combustion Emissions

Requirement: The permittee shall comply with the flaring and combustion SSM NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emission limits at Table 107.A for the following SSM events:

- 1) SSM H-9851, Emissions during SCR downtime
- 2) SSM SRU-TGI, Emissions from SRU3 startup and shutdown
- 3) SSM FL-HEP-PORT, Temporary, portable flare for natural gas pipeline maintenance
- 4) SSM SRU2-TGI (H-0473), Emissions from SRU2 startup and shutdown
- 5) SSM Flare Cap, Emissions from venting SSM activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404
- 6) SSM Misc 2, Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as heat exchanger repair.

(NSR 0195M35, Condition A107.C and revised)

Monitoring: The permittee shall monitor all flaring and combustion due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting all the SSM flaring and combustion information specified in A107C. Recordkeeping.

Recordkeeping: The permittee shall record the date, start and end times, and duration of every SSM flaring or combustion event. The NO_x, CO, VOC, SO₂, TSP, PM₁₀, and H₂S emissions shall be calculated for each event based on the volume of gas sent to the flare and the total sulfur content of the flared gas. Compliance with the hourly emission rates shall be demonstrated by calculating the hourly emission rates for each event and comparing the results to the hourly emission rate at Table 107.A. The annual emission rate shall be calculated as follows:

- 1) To demonstrate compliance during the first 12 months of monitoring, the permittee shall calculate and sum the monthly cumulative total of NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emissions; and
- 2) After the first 12 months of monitoring, the permittee shall calculate and sum the total of NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emissions on a monthly rolling 12 month basis.
- 3) The permittee shall maintain all records in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

D. SSM VOC Emissions (Facility-Wide, Non-Combustion Sources)

Requirement: The permittee shall comply with the SSM VOC emission limit at Table [107.A](#).

Monitoring: The permittee shall monitor all VOC emission activities due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting VOC emission calculation information for the following SSM VOC emission activities:

- 1) SSM T-0737, Emissions from roof landing
- 2) SSM T-0078, Emissions from roof landing and tank refilling
- 3) SSM T-0079, Emissions from roof landing and tank refilling
- 4) SSM T-1225, Emissions from roof landing
- 5) SSM Tanks Miscellaneous

Recordkeeping: The annual SSM VOC emission rate shall be calculated as follows:

- 1) To demonstrate compliance during the first 12 months of monitoring the permittee shall calculate and sum the monthly cumulative total of VOC emissions; and
- 2) After the first 12 months of monitoring the permittee shall calculate and sum the total of VOC emissions on a monthly rolling 12 month basis, including the methodology and/or assumptions used in the calculation(s). The permittee shall keep records to demonstrate compliance in accordance with Condition B109C, except the requirement in B109.C(2) to record the start and end times of SSM events shall not apply to known quantities of VOC emissions.
- 3) The permittee shall maintain all records in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

E. SSM Particulate Emissions (Unit SSM Misc 1)

Requirement: The permittee shall minimize particulate emissions due to SSM events.

Monitoring: The permittee shall monitor all particulate emissions due to routine and predictable startups, shutdowns, and scheduled maintenance events. For the event type of FCCU Catalyst Loading, the maximum material usage shall not exceed 1 hr-duration, 1 loading event/yr; and 237,048 lb/event/yr.

Recordkeeping: For each event, the permittee shall maintain records of the duration in hours, events per year, and material usage for the particulate matter emitting SSM event - FCCU Catalyst Loading. The annual material usage shall be based on monthly rolling 12-month total. The permittee shall maintain all records in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

F. SSM and Malfunction Flaring Emissions (SSM Flare Cap and Flares Malf Cap)

Requirement: The permittee shall not exceed the pound per hour (pph) and ton per year (tpy) emission limits in Table A107.A and shall demonstrate compliance with these limits by calculating and summarizing these emission rates as required in recordkeeping.

Monitoring:

A gas flowmeter and flow totalizer, equipped with a chart recorder or electronic data logger, shall be installed in the flare line to measure and record the total standard cubic feet (scf) of all gas (process gas, purge gas, pilot gas, and supplemental fuel gas) sent to the flare during each hour and each month.

The permittee shall measure the H₂S content, the total sulfur content, the VOC content, and the heating value (Btu/scf) of the gas sent to the flare for combustion. H₂S shall be measured at least once every 24-hours on each of the inlet gas types/streams using a stain tube of the appropriate size range or an inline H₂S monitor. The total sulfur content, VOC content, and heating value (Btu/scf) of the natural gas sent to the flare shall be measured at least once annually with an extended gas analysis.

The flow meter and flow totalizer shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings. If used, the inline monitor shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings.

Recordkeeping: The following records shall be kept:

- stain tube and/or inline H₂S measurements
- annual extended gas analysis
- both the hourly and monthly volume (scf) of gas sent to the flare

Each month, the permittee shall record and summarize in a table format the following.

- H₂S and the total sulfur content

A109 Facility: Reporting Schedules

- A. A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The six month reporting periods start on September 1st and March 1st of each year.
- B. The Annual Compliance Certification Report is due within 30 days of the end of every 12-month reporting period. The 12-month reporting period starts on September 1st of each year.
- C. In addition to the reports required by the applicable NSPS, NESHAP and MACT Subparts (including any voluntary programs referencing NSPS, NESHAP, or MACT Subparts) and by the applicable parts of 20.2 NMAC, the reporting required by the Consent Decree shall be submitted to the Department. The reports shall be submitted to the Air Quality Bureau within forty five (45) days of the end of each calendar quarter. If any reports indicate potential non-compliance with the terms of this permit, the Bureau may impose a more frequent reporting time-frame. The Department shall handle any confidential information in accordance with the provisions of 20.2.1.115 NMAC.
- D. Reporting required by the Consent Decree (not an exhaustive listing)
 - (1) The permittee shall notify the Department's Enforcement Section, Air Quality Bureau in writing of the annual progress of installation of NOx Control Technology required by Paragraph 16 of the Consent Decree. The report shall be submitted to the EPA and the NMED on or before December 31st of each calendar year commencing with the year 2002. (CD ¶16.E)
 - (2) No later than forty-five (45) days following the end of an AG Flaring or TG Incident, the permittee shall submit to EPA and the NMED a report that sets forth the items detailed in the Consent Decree. (CD ¶20, CD¶21)

A110 Facility: Fuel and Fuel Sulfur Requirements (as required)

- A. Fuel, Fuel Sulfur, and NSPS J, Ja Sulfur Requirements (See Tables [103.E](#), H, I, & K, Summary of Applicable Requirements)

Requirement: (NSR 0195M35, Condition A110.A and revised)

- (1) To comply with NSPS Subpart J, NSPS Subpart Ja, and the PSD BACT requirements in Section 106, the permittee shall install, calibrate and maintain a continuous monitoring system (CMS) to continuously measure and record either the hydrogen sulfide (H₂S) in the refinery fuel gas streams being burned in the Heaters and Boilers or the concentration of sulfur dioxide emissions to the atmosphere.
- (2) All stationary combustion equipment shall be fired with NSPS quality fuel gas with a maximum H₂S content of 0.1 grains/dscf (approx. 162 ppmv), based on a hourly rolling 3-hour average.
- (3) All stationary combustion equipment shall not combust gas with an annual average sulfur

content exceeding 60 ppmv (approx. 0.037 grains) as a daily rolling 365-day average.

(4) All stationary combustion equipment shall be affected facilities, as defined in NSPS 40 CFR Part 60, Subparts A and J or Ja, if refinery-produced fuel gas is combusted in the heaters and boilers, and shall comply with all applicable requirements of NSPS Subparts A and J or Ja.

(See Table 103.E, Summary of Applicable Requirements)

Monitoring:

(1) The permittee shall install, certify, calibrate, maintain and operate a fuel gas continuous monitoring system (CMS) at the fuel gas mix drum outlet in accordance with the requirements of 40 CFR §§ 60.11, 60.13, and Part 60 Appendix A, and the applicable performance specification of 40 CFR Part 60 Appendices B and F.

(2) The following CMS shall be certified initially and recertified annually:

- D-0019 Low Pressure Fuel Gas H₂S CMS
- D-0770 High Pressure Fuel Gas H₂S CMS

(3) As required by the EPA-approvable alternative monitoring procedure (AMP), CCR off-gas streams that enter the refinery fuel gas system downstream of the H₂S CMS shall be monitored quarterly for H₂S using gas detector tubes or an equivalent method as follows: (a) CCR stabilizer off gas stream, (b) H₂ recycle gas stream, and c) CCR feed stream.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subparts A, J, and Ja.

(1) Records of the quantity of the refinery fuel gas and the monthly average heating value of the refinery fuel gas. This is used to demonstrate compliance with lb/mmBTU and lb/hr limits shown in Table [106.A](#). (permit limit)

(2) Records of repairs, maintenance, and calibrations performed for the instruments that measure flow or concentration for an applicable permit limit shall be kept. Examples include, but are not limited to, CMS, acid gas flow meters, and fuel gas flow meters. (40 CFR 60, Appendix F)

(3) Records shall be kept of Alternative Monitoring Plan (AMP) H₂S analyses of the CCR off-gas streams that enter the refinery fuel gas system downstream of the fuel gas H₂S CMS. (NSPS J or Ja)

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subparts A, J, and Ja, and Section B110.

A111 Facility: 20.2.36 NMAC

A. Facility: 20.2.36 NMAC

Requirement: 20.2.36 NMAC (Petroleum Refinery - Sulfur, 11/30/95) applies to the refinery as a whole. Quarterly refinery-wide sulfur balance reports shall be filed in accordance with 20.2.36.113 NMAC. All flares and stacks shall meet the applicable height requirements of 20.2.36.114 NMAC as demonstrated through air dispersion modeling done at the time of unit

installation. (NSR 0195M35, Condition A111.A)
Monitoring: Quarterly monitoring of refinery-wide sulfur balance.
Recordkeeping: The permittee shall keep record of a copy of the Facility-Wide Sulfur Balance Report and the actual height of flares and stacks.
Reporting: The permittee shall report in accordance with 20.2.36.113A NMAC.

A112 Facility: 20.2.37 NMAC

A. 20.2.37 NMAC

Requirement: (NSR 0195M35, Condition A112.A)

- (1) Section 200.A (Mercaptans) and section 200.B (Hydrogen Sulfide) apply to mercaptan and H₂S emissions from the refinery. Section 200.C applies to FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404, and requires an alarm in good working order to signal non-combustion of the gas.
- (2) Section 201.A (CO), applies to the refinery's FCC regenerator stack. The owner or operator of an existing petroleum processing facility shall not permit, cause, suffer or allow carbon monoxide emissions to the atmosphere from a catalyst cracking recirculation or regeneration unit in excess of 20,000 ppm by volume in the undiluted effluent gas stream or streams.
- (3) Section 202.C(1) (PM), The owner or operator of a new petroleum processing facility shall not permit, cause, suffer or allow particulate matter emissions to the atmosphere from the catalytic cracking regenerator vessel in excess of 1.0 Kg/1000 Kg (1.0 lb/1000 lb) of coke burnoff or visible emissions of thirty percent (30%) opacity or greater except for one six-minute average opacity reading in any one-hour period.
- (4) Section 203 (Ammonia, undiluted emissions ≤ 25 ppmv) applies to all emission points of the refinery. The owner or operator of a petroleum processing facility shall not permit, cause, suffer or allow ammonia emissions to the atmosphere in excess of 25 ppm by volume in the undiluted effluent gas stream or streams.
- (5) Section 204 (Hydrocarbon Separation Facility) applies to all oil/water separators at the refinery. Compliance with this condition is met by complying with the applicable NSPS Subpart QQQ requirements.
- (6) Section 205 (Facilities - Storage - Handling - Pumping - Blowdown System) applies to certain of the following: storage tanks for organic compounds, loading and unloading of organic compounds, seals on pumps and compressors, and disposal (flaring) of hydrocarbon gases. The permittee shall not permit, cause, suffer or allow the operation of a blowdown system without disposing of the gases in a manner which will minimize hydrocarbon emission to the atmosphere. If combustion is the means of disposal, it shall be by: smokeless flare; or any other method that is equally effective to achieve complete combustion. (20.2.37.205.E NMAC)

Monitoring:

- (1) For Units FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404: The permittee shall install

and maintain a flare pilot flame monitoring system. (20.2.37.200.A.2 NMAC)

(2) A CO CMS has been installed to monitoring the emissions from the FCC.

(3) The annual EPA Method 9 Opacity Test and annual Stack test on Unit FCC (lb/hr PM emissions) and the calculated Coke burn rate will be used for the annual determination of pounds of PM per 1000 pounds of Coke burned.

(4) None

(5) No additional monitoring since compliance is met by complying with the applicable NSPS Subpart QQQ requirements. See other conditions of this permit for applicable NSPS or MACT requirements.

(6) Compliance is demonstrated through NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns.

Recordkeeping:

(1) Pilot flame monitoring records

(2) CO CMS measurements

(3) Copy of annual coke burn rate determination, stack test report, and opacity test report

(4) None

(5) Applicable NSPS Subpart QQQ requirements

(6) Applicable NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns requirements

Reporting: The permittee shall report in accordance with applicable NSPS or MACT requirements and Section B110.

A113 Facility: 20.2.38 NMAC

A. 20.2.38 NMAC

Requirement: 20.2.38 NMAC (Hydrocarbon Storage Facilities, 11/30/95) applies to the refinery as follows:

1. Section 109 (Tank Storage Associated with Petroleum Production or Processing Facility [Sour Hydrocarbon Liquids]) applies to the loading and storing of hydrocarbons containing H₂S.

2. Section 110 (Tank Battery or Storage Facility - Within Municipality [Sour Hydrocarbon Liquids]) applies to certain tanks storing sour hydrocarbon liquids whose vapors contain ≥ 24 ppm H₂S.

3. Section 113 (New Tank Battery and the Pecos-Permian Interstate Air Quality Control Region [Sour Hydrocarbon Liquids]) applies to certain tanks storing sour hydrocarbon liquids whose

vapors contain ≥ 24 ppm H₂S.

(NSR 0195M35, Condition A113.A)

Monitoring: 1. None

2. and 3. Demonstrated through NSPS K, Ka, Kb, and MACT CC floating roof seal inspection.

Recordkeeping:

1. Records of Tank design showing inlet piping connections.

2. and 3. No additional requirements other than applicable requirements of NSPS and MACT.

Reporting: The permittee shall report in accordance with Section B110.

A114 Facility: Relocation Requirements – Not Required

A115 Alternative Operating Scenario – Not Required

A116 Compliance Plan – Not Required

A117 Reducing Facility Emissions – Not Required

A118 Facility: MACT Subpart UUU

A. 40 CFR 63, Subpart UUU FCC, FUG-70-CCR, SRUs 1, 2, and 3

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart UUU, National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units, for all affected sources shown in [Tables 103H&I](#) attached. (63.1560 and 63.1570).

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart UUU.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart UUU.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart UUU.

A119 40 CFR 61 Subpart FF, National Emission Standard for Benzene Waste Operations

A. 40 CFR 61 Subpart FF, National Emission Standard for Benzene Waste Operations (Units subject in Table [103.C](#) & G)

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 61, Subpart FF, National Emission Standard for Benzene Waste Operations for the affected sources

in Tables 103.C, G.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 61, Subpart FF.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 61.356.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 61.357.

EQUIPMENT SPECIFIC REQUIREMENTS

OIL AND GAS INDUSTRY

A200 Oil and Gas Industry

A. This section has common equipment related to most Oil and Gas Operations.

A201 Engines

A. Maintenance and Repair Monitoring (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901; Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901)

Requirement: These units are subject to Title V since they are subject to NSPS and/or MACT requirements. No emission limits were established since their emissions are small. The permittee shall ensure these units are properly maintained and repaired.

Monitoring: Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events:

- (1) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period.
- (2) Unscheduled repairs that require a unit to be taken out of service for more than two hours in any twenty-four hour period.

Recordkeeping: The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.

Reporting: The permittee shall report in accordance with Section B110.

- B. 40 CFR 63, Subpart ZZZZ (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901) (Units subject in Table [103.J](#))

Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 63, Subpart ZZZZ and the permittee shall comply with all applicable requirements of Subpart A and Subpart ZZZZ.

Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart A and Subpart ZZZZ.

Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart ZZZZ, including but not limited to 63.6655 and 63.10.

Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart A and ZZZZ, including but not limited to 63.6645, 63.6650, 63.9, and 63.10.

- C. 40 CFR 60, Subpart IIII (Diesel Engines subject in Table [103.J](#))

Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 60, Subparts A and IIII and shall comply with the notification requirements in Subpart A and the specific requirements of Subpart IIII.

Monitoring: The permittee shall comply with all applicable monitoring and testing requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4211.

Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.

Reporting: The permittee shall comply with all applicable reporting requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.

A202 Glycol Dehydrators – Not Required

A203 Tanks

- A. NSPS Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 (Tanks subject in Table [103.C](#))

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & K for the affected sources in Table [103.C](#).

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart K.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart K.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart K.

- B. NSPS Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 (Tanks subject in Table [103.C](#))

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Ka for the affected sources in Table [103.C](#).

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ka.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ka.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ka.

- C. NSPS Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984" (Tanks subject in Table [103.C](#))

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Kb for the affected sources in Table [103.C](#).

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Kb.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Kb.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Kb.

- D. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Tanks subject in Table [103.C](#))

Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Table [103.C](#) attached. (63.640).

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.

- E. Tank Throughput, Temperature, and VOC and H₂S Limits (Units shown in Tables [106.B](#) & [C](#))

Requirement: Compliance with the allowable throughput limits and emission limits in Table [106.D & E](#) shall be demonstrated by not exceeding the monthly rolling 12-month total throughput to the unit(s) of gallons per year (barrels/year) shown in Table 106.D and not exceeding the allowable vapor pressure listed in Tables 106.B & C.

Monitoring: The permittee shall monitor the monthly total throughput, maximum temperature once per month and the vapor pressure of each tank.

Recordkeeping: The permittee shall record the monthly total throughput of liquids and the vapor pressure of each tank. Each month, during the first 12 months of monitoring, the permittee shall record the cumulative total liquid throughput and vapor pressure and after the first 12 months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total liquid throughput and the vapor pressure of each tank.

The permittee has calculated the VOCs and H₂S annually based on the 12-month total.

Tank breathing and working emissions were calculated using the USEPA Tanks program Version 4.0.9.d or more current. Emission rates computed using the same parameters, but with a different Department approved algorithm that exceed these values will not be deemed non-compliance with this permit.

Records shall also be maintained in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

A204 Heaters/Boilers

A. Operational Inspection (All heaters/boilers in Tables [103.E](#) & 104.A)

Requirement: Compliance with the allowable emission limits in Table [106.A](#) shall be demonstrated by performing periodic inspections to ensure proper operations.

Monitoring: The permittee shall conduct annual operational inspections to determine that the heater(s)/boiler(s) are operating properly. The operational inspections shall include operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the heater/boiler manufacturer, and indications based on operational experience with the/these unit(s).

Recordkeeping: The permittee shall maintain records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the heater(s)/boiler(s) into compliance. The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

Within ninety (90) days of permit issuance, the permittee shall submit for Department approval a procedure which the permittee will use to carry out the operational inspections. The permittee may at any time submit revisions for Department approval.

B. Periodic Emissions Tests (Units Heaters H-0019, H-0020, H-0362, H-0363, H-0364, H-2421, H-3402, and H-3403)

Requirement: Compliance with allowable emission limits in Table 106.A shall be demonstrated by performing periodic emissions tests. (NSR 0195M35, Condition A204.A, revived)

Monitoring: The permittee shall conduct annual periodic portable analyzer emission tests or EPA Reference Method Tests for NO_x and CO.

Test results that demonstrate compliance with the CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits.

Section B108 General Monitoring Requirements apply to this condition.

The permittee shall meet the testing requirements in Section B111.

Recordkeeping: Records of periodic emission tests shall include the flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure NO_x, CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results.

Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.

Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for NO_x and CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.

C. Summary of Compliance Methods for Heaters and Boilers for Table 106.A, 20.2.33 NMAC, 20.2.37 NMAC (Boilers and Heaters in Tables 103.E and 104.A)

Requirement: (NSR 0195M35, Condition A204.B)

(1) Demonstrate compliance with Table [106.A](#) Allowable Emissions.

(2) 20.2.33 NMAC (Gas Burning Equipment – Nitrogen Dioxide, 10/31/02) applies to existing and new gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year. It applies to process heaters identified in Tables 103.E and 104.A.

These units shall be equipped with burners emitting less than 0.2 lb NO_x per MM Btu.

Compliance with 20.2.33 NMAC is demonstrated by compliance with the NO_x lb per MM Btu limits in Table [A106.A](#).

Monitoring:

(1) The permittee shall monitor the fuel usage of the all boilers and heaters. The fuel usage shall be monitored for specific heaters and boilers subject to 20.2.33 NMAC.

(2) For specific heaters and boilers subject to 20.2.33 NMAC, the permittee shall collect and analyze samples of the refinery fuel gas at least once per week. The refinery fuel gas analysis

shall include the composition of the refinery fuel gas, the gross heating value, and the net heating value.

(3) See Condition A110.A for H₂S monitoring requirements.

(4) All process heaters and boilers shall fire only refinery gas in accordance with Application, Section 2, Table 2-J.

(5) For those combustion sources required to have a continuous monitoring system (CMS) (listed in (a) below), the permittee shall install, certify, calibrate, maintain, and operate the CMS for each required pollutant in accordance with the applicable requirements of 40 CFR 60 or 63. The hourly average CMS data, the refinery fuel gas usage data, and the refinery fuel gas composition data shall be used to estimate the actual emission rates.

(a) The following CMS shall be recertified annually:

- Boiler B-0007 NO_x and O₂ CMS
- Boiler B-0008 NO_x and O₂ CMS
- Boiler B-0009 NO_x and O₂ and CO₂ CMS
- H-9851 NO_x O₂ CMS
- H-2501 NO_x O₂ CMS

(6) For those combustion sources required to conduct periodic stack exhaust testing as stated in Condition A204.B, the test reports shall be used to demonstrate compliance with the NO_x, CO, and VOC limits in Table [106.A](#).

(7) For those units and pollutants that are not required to have a CMS or a periodic stack test, (Units H-009, H-0011, H-0018, H-0028, H-0030, H-0040, H-0303, H-0312, H-0352, H-0353, H-0354, H-0355, H-0421, H-0464, H-0473, H-0600, H-0601, H-8801, H-8802, and H-3101) the permit application emission factor, the fuel usage, and the refinery fuel gas analysis shall be used to calculate the emission rates of NO_x, CO, VOC, and PM.

(8) Compliance with the particulate emission limitation set forth in 20.2.37.202.A NMAC shall be determined as specified in 20.2.37.202.D(3) NMAC. Combustion of only gaseous fuel has been approved by the Department as the compliance method under 20.2.37.202.D(3) NMAC.

Recordkeeping: The permittee shall maintain the following records:

(1) By March 31, the annual fuel usage for all boilers and heaters for the previous calendar year.

(2) By March 31, the average fuel composition and heating value for all boilers and heaters for the previous calendar year.

(3) For those units required to have a CMS (B-0007, B-0008, B-0009, H-9851 and H-2501), the CMS hourly average data.

(4) For those units required to conduct periodic stack exhaust testing, the periodic test report.

(5) For all boilers and heaters, a summary spreadsheet shall be maintained comparing the actual annual emissions with the allowable emission limits expressed in tons per year and lb/MMBtu using the appropriate method of compliance demonstration. This spreadsheet shall

be updated by March 31 of each year for the previous calendar year.

Reporting: The permittee shall report in accordance with Sections B110.

D. Consent Decree NO_x Emission Limits for Boilers B-0007, B-0008, and B-0009 (new as of 2013)

Requirement: (NSR 0195M35, Condition A204.C)

(1) In accordance with the Consent Decree lodged December 20, 2001, NO_x emissions from boilers B-0007 (no later than December 31, 2002), B-0008 (no later than December 31, 2003), and B-0009 (new as of 2013) shall not exceed the limit in Table [106.A](#) during any hourly rolling 3-hour period.

Demonstration of compliance with the NO_x limit for B-0007, B-0008, and B-0009 shall be established by averaging the CMS Data over any 3-hour period and comparing the average concentration to the parametric limit of ≤ 42.1 ppm NO_x, corrected to 6.1% O₂ as determined by the CMS. (CD¶16.D)

This also satisfies the requirement in 20.2.33.108.A NMAC that NO_x emissions shall not exceed 0.2 lb/MMBTU.

(2) Navajo is authorized to operate all three boilers (B-0007, B-0008, and B-0009) simultaneously as needed.

Monitoring: For the Controlled Boilers (B-0007, B-0008) as listed in the Consent Decree and B-0009 (new as of 2013), continuous compliance with their respective NO_x permit emissions limits shall be demonstrated by monitoring as follows: (CD¶16.C)

(1) For boilers (B-0007, B-0008, and B-0009) with a heat input capacity greater than 150 MMBTU/hr of HHV, the permittee shall install or continue to operate CMS to measure NO_x and O₂. Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specification test of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable; (CD¶16.C.i)

Recordkeeping: The permittee shall keep records of the CMS recertification's monitored in Condition A204.B, Summary of Compliance.

Reporting: The permittee shall report in accordance with Section B110.

E. NO_x Monitoring and Testing for Controlled Heaters Subject to the Consent Decree (Units H-0020, H-0352, H-0353, H-0354, H-0600, and H-0601)

Requirement: For the Controlled Heaters as listed in the Consent Decree, continuous compliance with all NO_x emissions limits shall be demonstrated by monitoring as follows. (CD¶16.C) (NSR 0195M35, Condition A204.D)

Monitoring:

(1) For heaters with a heat input capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV), Navajo shall

- (a) install or continue to operate CMS to measure NO_x and O₂ by no later than the date of the installation of the applicable NO_x Control Technology on the heater or boiler; or
- (b) submit for EPA approval, by no later than 60 days after the date of installation of the applicable NO_x Control Technology on the heater or boiler, a proposal for monitoring based on operating parameters, including but not limited to, firebox temperature, air preheat temperature, heat input rate, and combustion O₂.

Navajo shall evaluate the necessity of using firebox or bridgewall temperatures and additional operating parameters and agrees to use such parameters as a means of monitoring performance where Navajo and EPA mutually-agree to their effectiveness. (CD¶16.C.ii).

As of January 23, 2014 (notarized date of application), there are no heaters or boilers at the Artesia Refinery with a capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV) subject to Monitoring requirement (1).

(2) For heaters with a heat input capacity of equal to or less than 100 MMBTU/hr of HHV, the permittee shall conduct an initial performance tests for NO_x. The results of these tests shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. (CD¶16.C.iii). This condition applies to the following heaters:

- Heaters H-0352, H-0353, and H-0354
- Heater H-0020
- Heaters H-0600 and H-0601

The permittee has completed all of the initial performance tests.

(3) For heater H-0601 compliance shall be demonstrated by continuously monitoring stack oxygen (O₂) to maintain a 3-hour average below 6.0 vol%. As a further check of compliance, Navajo shall monitor stack NO_x at least twice a month using a portable analyzer to assure that the measured NO_x value does not exceed the compliance threshold of 38 ppmv NO_x. (CD¶16.C.iii)

Recordkeeping:

(1) The permittee shall keep records of the Fuel firing rates and Sulfur limits monitored for Condition A110.A.

(2) The permittee shall keep records of the initial performance tests.

(3) The permittee shall keep records of the stack oxygen monitoring and the portable analyzer tests.

Reporting: The permittee shall report in accordance with Section B110. Condition B.111.D(7) does not apply to portable analyzer tests.

- F. NO_x Monitoring and Testing for Heaters permitted after the Consent Decree (Units Heaters H-0019, H-0362, H-0363, H-0364, H-2421, H-3402, H-3403, H-2501, H-8801/8802, and H-9851)

Requirement: For the Heaters permitted after the Consent Decree, continuous compliance with their respective NO_x permit emissions limits in Table 106.A shall be demonstrated by monitoring as follows. (NSR 0195M35, Condition A204.E)

Monitoring:

(1) For heaters with a heat input capacity greater than 150 MM Btu/hr (LHV Basis), the permittee shall install and operate CMS to measure NO_x and O₂ by the startup date of each heater. Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specifications of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable. Condition A204.F(1) applies to heater H-9851.

(2) For heaters with a heat input capacity of equal to or less than 150 MM Btu/hr (LHV) but greater than 100 MM Btu/hr (LHV), Navajo shall:

- (a) install and operate CMS to measure NO_x and O₂ by the startup date of each heater; or
- (b) submit to the Permit Program Manager for NMED approval, by no later than 90 days after the startup date of each heater, a proposal for monitoring based on operating parameters. Operating parameters to consider include, but are not limited to, firebox temperature, air pre-heat temperature, heat input rate, and combustion O₂. Navajo agrees to use such parameters as a means of monitoring performance.

Condition A204.F(2) applies to heaters H-2501 and H-8801/8802

(3) For heaters with a heat input capacity of equal to or less than 100 MM Btu/hr (LHV basis), the permittee shall conduct an initial performance test by no later than 180 days after the startup date. The results of this test shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. This condition applies to the following heaters:

- Heaters H-0362, H-0363, H-0364, and H-2421
- Heater H-0019
- Heaters H-3402 (AMP approved by EPA, see (4)) , initial performance test completed on July 10, 2013
- Heater H-3403, initial performance test completed on April 30, 2013

(4) US EPA has approved an Alternative Monitoring Plan (AMP) for Unit H-3402 for utilizing the oxygen monitor on the H-3402 Unit 34 Hydrocracker Reboiler 1 as a parametric means for demonstrating compliance with NSPS Ja, NO_x monitoring via a CMS. In accordance with the AMP, the permittee shall accomplish the following:

- (a) Install flow indication on the fuel line to provide historical data of the fuel to the Mild Hydrocracker (Unit 34) by January 1st, 2015.
- (b) Monitor the process historical data of the HEP purchased natural gas pressure, and the high pressure fuel balance drum (D-0770).
- (c) Upgrade the existing the Mild Hydrocracker (Unit 34) Reboiler Heater (H-3402) oxygen monitor to perform daily calibrations as required in 40 CFR60.13(d)(1). (Note that the sample placement does not conform to CMS requirements for process reasons).
- (d) Conduct biennial performance tests according to the requirements in 40CFR 60.104a(i).
- (e) Establish a maximum or curve excess O₂ operating limit – (MOPV) as required under 40 CFR60.107a(c)(6) utilizing the existing monitor.
- (f) Include Reboiler Heater (H-3402) hours of refinery fuel gas usage and any deviations during such time as required by 40 CFR 60.7 for periodic reporting.

Recordkeeping:

- (1) The permittee shall keep records of the monitoring proposals submitted to the Permit Program Manager for approval and whether the submittal was approved.
- (2) The permittee shall keep records of the CMS data, calibration, and recertification's monitored in Condition A204.A, Summary of Compliance.
- (3) The permittee shall keep records of the performance tests.
- (4) The permittee shall keep records of the implementation of the AMP and all required monitoring specified in the AMP.

Reporting: The permittee shall report in accordance with Section B110.

G. NSPS Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (Boilers and heater subject in Table [103.E](#))

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Db (NO_x-60.44b, SO₂-60.42b, & PM-60.43b) for the affected sources in Table [103.E](#).

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.48b, Subpart Db.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.49b, Subpart Db.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.49b, Subpart Db.

Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.45b and 60.46b.

H. NSPS Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (Boilers and heater subject in Table [103.E](#))

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Dc (NO _x -60.44c, SO ₂ -60.42c, & PM-60.43c) for the affected sources in Table 103.E .
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.47c, Subpart Dc.
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.48c, Subpart Dc.
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.48c, Subpart Dc.
Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.44c and 60.45c.

I. NSPS Subpart J, Standards of Performance for Petroleum Refineries (Boilers and heater subject in Table [103.E](#))

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & J for the affected sources in Table 103.E .
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart J.
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart J.
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart J.

J. NSPS Subpart Ja, Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007 (Boilers and heater subject in Table [103.E](#))

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Ja for the affected sources in Table 103.E .
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ja.
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ja.
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ja.

K. BACT NO_x Limit, Continuous Monitoring System (CMS) (Unit B-0009)

Requirement: The permittee shall comply with the allowable emission limits in Table 106.A and Condition A106.E that represent NO_x BACT limits for the BACT requirements. (NSR 0195M35, Condition A204.I and revised)

Monitoring:

(1) The Permittee shall comply with the CMS monitoring as detailed in Condition A204.D.

(2) The permittee shall conduct an EPA Method test within six (6) months of permit issuance using EPA reference test methods in 40 CFR 60 for NO_x and O₂ and CO₂. Data from the CMS RATA testing may be used to satisfy this testing requirement.

Recordkeeping:

(1) The permittee shall keep records of the CMS initial calibration and recertification monitored in Condition A204.B, Summary of Compliance.

(2) Records of EPA Methods tests shall be maintained for the Boiler.

Reporting:

(1) The permittee shall report in accordance with Section B110, to include the CMS initial calibration and recertification.

(2) The permittee shall summarize in tabular form the results of the EPA Methods tests for NO_x and O₂ and CO₂, specifying the emissions rates in pounds per hour and lb/MMBtu. The table shall include the average concentration of all relevant pollutant species.

L. MACT Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters (Boilers and heater subject in Table [103.E](#))

Requirement: The units are subject to 40 CFR 63, Subpart DDDDD and the permittee shall comply with the applicable requirements of 40 CFR 63, Subpart A and Subpart DDDDD.

Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart A and Subpart DDDDD.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart DDDDD.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart A and Subpart DDDDD.

M. EPA Methods Test (Unit B-0009)

Requirement: Compliance with CO BACT Limit and allowable emission limits in Table 106.A shall be demonstrated by emissions tests ensuring the unit is operating correctly and within desired parameters. (NSR 0195M35, Condition A204.K and revised)

Monitoring: The permittee shall conduct an EPA Method test no later than 180 days after permit issuance using EPA reference test methods in 40 CFR 60.

Emission testing is required for CO. Test results that demonstrate compliance with the CO

emission limits shall also be considered to demonstrate compliance with the VOC emission limits.

Recordkeeping: Records of EPA Methods tests shall be maintained for the Boiler.

Reporting: The permittee shall report in accordance with the requirements of Section B111.D and summarize in tabular form the results of the EPA Methods test for CO, specifying the emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species.

N. Verification of Energy Efficiency BACT Control Requirements (Unit B-0009)

Requirement: The permittee shall comply with the allowable emission limits and the following BACT requirements. (NSR 0195M35, Condition A204.L and revised)

1. Operation and Maintenance (BACT #6):
 - a. Periodic Boiler Tuning – The boiler shall be tuned annually to maintain optimal thermal efficiency.
 - b. Periodic Boiler Inspection and Repair for air leakage – The boiler shall be inspected annually to maintain optimal thermal efficiency.
 - c. Periodic Boiler Inspection and Cleaning for tube fouling – The boiler shall be inspected annually and necessary cleaning performed to prevent tube fouling.
2. Next Generation Ultra-low-NO_x high efficiency burners (NGULNB) (#5) shall be installed in the boiler design.
3. Flue gas economizer (BACT #2) – A heat exchanger shall be installed to recover heat from the exhaust gas to preheat incoming boiler feedwater to attain industry standard performance (IMO) for thermal efficiency.
4. Boiler insulation (BACT #4) – The boiler shall be designed and installed with boiler insulation to an optimum insulation thickness and material to achieve maximum energy efficiency. The OMP shall include the insulation design and maintenance schedule.
5. Oxygen Trim Control (BACT #7) – An Oxygen Trim Control system shall be designed and installed on the boiler to monitor oxygen concentration in the flue gas, and the inlet air flow is adjusted to maximize thermal efficiency.
6. Boiler blowdown minimization using manual analysis (BACT #3) – The Operation and Maintenance Plan (OMP) shall include methods and procedures to minimize blowdowns from the boiler to keep emissions at a minimum.
7. Condensate recovery (BACT #8): Condensate shall be recovered as represented in the application to achieve maximum energy efficiency. Condensate recovery shall be maximized through annual steam trap inspections and repairs.

Monitoring: The Permittee shall develop an Operation and Maintenance Plan (OMP) to include at least the requirements listed above within 12 months of commencement of operations. The Permittee shall review the OMP annually to ensure it's effectiveness in

meeting the requirements above and recommend changes.
Recordkeeping: (1) Records demonstrating compliance with the energy efficiency requirement shall be recorded and summarized in the OMP. (2) The Permittee shall maintain a copy of the OMP onsite and available for inspection.
Reporting: (1) The permittee shall notify the Department when the OMP has been prepared and available for review. (2) The permittee shall report in the semi-annual report a summary of actions covered in accordance with the OMP, and in accordance with Section B110.

O. Periodic Emissions Tests (Unit B-009, CO BACT Limit)

Requirement: Compliance with the CO BACT Limit and allowable emission limits in Table <u>106.A</u> shall be demonstrated by performing periodic emissions tests.
Monitoring: The permittee shall conduct periodic portable analyzer emission tests or EPA Reference Method Tests for CO at the intervals in the following schedule: First Test --- in accordance with the schedule in Section B111.A(2). Second Test --six (6) months after the first test is completed. All subsequent testing shall be done annually. Section B108 General Monitoring Requirements apply to this condition. The permittee shall meet the testing requirements in Section B111.
Recordkeeping: Records of periodic emission tests shall include the boiler fuel flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results. Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.
Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.

A205 Turbines not required

A206 Flares**A. FL-0400, FL-0403**

Requirement: (NSR 0195M35, Condition A206.A)

(1) An alarm system in good working order shall be connected to Flare FL-0403 which will signal non-combustion of the gas.

(2) The acid gas flow meter for flare FL-0400 or FL-0403 shall be operated and calibrated at a frequency and by the procedure specified by the manufacturer. A chart recorder or data logger (electronic storage) shall continuously record the amount of gas measured by the flow meter.

Monitoring: The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 as required under A105.B shall be monitored during flaring by a flow meter.

The flow meter shall be operated continuously 24 hours per day, 365 days per year except for periods of flow meter maintenance or repair.

The upper range of the flow meter shall be sufficient to record the highest expected flow rate of fuel gas sent to flare.

The reading of this flow meter and the flow meter to measure acid gas flow as required under Condition A105.B shall be used to determine compliance with emission limits at A106.C.

Recordkeeping: (1) Records of all periods of operation during which the flare pilot flame is absent as included in the MACT subpart CC semi-annual reports.

(2) Records of the quantity of supplemental fuel used during each acid gas flaring incident to provide supplemental heat to flare FL-0400 or flare FL-0403.

(3) The permittee shall maintain records from the flow meter of the amount of gas sent to the flare.

Reporting: The permittee shall report in accordance with Section B110.

B. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Flares listed in Table [103.K](#))

Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in [Tables 103.B](#). (63.640).

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.

A207 Sulfur Recovery Plant (SRP), Tail Gas Incinerator (TGI)**A. Consent Decree Requirements for SRP and TGI**

Requirement: In addition to the applicable requirements of NSPS, 40 CFR 60, Subparts J and Ja, the permittee shall accomplish the following:

1. Navajo shall route all Sulfur Recovery Plant (SRP) sulfur pit emissions from the SRP so that sulfur pit emissions to the atmosphere either are eliminated or are included and monitored as part of the applicable Sulfur Recovery Plant's tail gas emissions that meet the NSPS Subpart J or Ja limit for SO₂. (CD ¶18.C.ii)

2. The SRP and TGI (and any supplemental control devices) shall be operated and maintained, to the extent practicable, in accordance with the obligation to minimize SRP emissions through implementation of good air pollution control practices required by 40 CFR § 60.11(d), at all times, including periods of start-up, shutdown, and malfunction. (CD ¶18.C.iii)

(NSR 0195M35, Condition A207.A)

Monitoring: The permittee shall comply with the applicable monitoring requirements of NSPS Subpart J or Ja.

Recordkeeping: The permittee shall maintain records in accordance with the applicable requirements of NSPS Subparts J and Ja.

Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J and Ja.

B. The following BACT SO₂ work practices and equipment shall apply to the SRP (SRU3/TGTU3/TGI3): (PSD-NM-0195-M25)

- (1) Maintain at least 98% SRP on-stream operations. This includes curtailing refinery operations as necessary when SRU capacity is limited during planned startup, shutdown, and maintenance events.
- (2) Maintain adequate SRP excess capacity to reduce the frequency and quantity of refinery excess SO₂ emissions. After the refinery expansion project proposed units are constructed, the proposed SRU3 will provide at least 25% excess capacity.
- (3) Continue to maintain and use a sulfur shedding plan to prevent or reduce acid gas flaring events from refinery upsets. An acid gas flaring event is defined as excess SO₂ emissions greater than 500 pounds in a 24-hour period.

The plan shall state specific actions that may be taken to reduce or prevent acid gas flaring. The actions taken during any event will be based on the refinery operators' discretion, considering safety and other factors related to prudent operation.

This plan is subject to review by NMED or EPA, and shall be amended upon written request by NMED or EPA.

The sulfur shedding plan may include, but is not limited to the following options:

- (a) Store sour water to reduce acid gas generation from the sour water strippers
- (b) Reduce the operating rate of one or more amine strippers to lower the acid gas generation rate
- (c) Reduce one or more hydrotreating unit throughput rates to lower acid gas generation rate
- (4) Use hydrogen, when available, as SRU fuel during startup and hot standby to minimize carbon deposits on the SRU catalysts.
- (5) During startup and shutdown and to the extent practicable, process vessels shall be depressurized into other process equipment rather than venting to a flare. The permittee shall document instances when this is not practicable.

C. SRU1, SRU2, and SRU3

Requirement: (NSR 0195M35, Condition A207.C and revised)

The permittee shall demonstrate compliance with the H₂S, SO₂, lb/hr, tpy emission limits by completing the following requirements, monitoring, recordkeeping and reporting:

- (1) A flow meter shall be installed, operated, calibrated, and maintained on the sour water stripper streams that go to the SRUs.
- (2) An SO₂ CEMS and flow meter shall be installed on the SRU1/SRU2 and SRU3 incinerator stacks. In addition, these units shall be equipped with instruments to measure and record sulfur concentration and flow rates of the gas streams into SRU1, SRU2, and SRU3.

The CEMS, flow meters, and data loggers shall be calibrated and maintained. In addition, the calibration of the SO₂ CEMS shall follow the quality assurance and quality control procedures in 40 CFR 60 Subpart J or Ja and Appendix F.

- (3) The minimum acceptable level of data capture for all instruments measuring flow of sulfur streams into the SRU1, SRU2, and SRU3, as well as the CEMS and flow meters on the incinerator stacks, shall be at least 90% for each semi-annual period. The 10% lost data will include all periods when the concentration and corresponding flow are not being measured as a result of calibrations or breakdowns.

Monitoring: The gas stream feeding SRU1, SRU2, and SRU3 from the amine regeneration units and the sour water stripper shall be tested at least monthly for H₂S concentration.

The permittee shall monitor the following:

- (1) Flow rate of sour water stream to SRUs,
- (2) SO₂ concentration in SRU incinerator stacks and
- (3) Flow rate of the SRU incinerator stacks.

Recordkeeping: The permittee shall maintain records in accordance with the applicable

requirements of NSPS Subparts J or Ja and MACT Subpart UUU.

The permittee shall also keep records of the following:

- (1) Flow rate of sour water stream to SRUs,
- (2) SO₂ concentration in SRU incinerator stacks and
- (3) Flow rate of the SRU incinerator stacks.

Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J or Ja, MACT Subpart UUU, and Section B110.

D. 40 CFR 60, Subpart J (Unit(s) SRU1 and SRU2)

Requirement: The permittee shall comply with the applicable requirements of 40 CFR 60, Subpart J.

Monitoring: The permittee shall install a continuous monitoring device to monitor compliance with the H₂S limit. (40 CFR 60.105(a)(3-4))

Recordkeeping: The permittee shall maintain the continuous emission records.

Reporting: The permittee shall comply with the reporting requirements of 40 CFR 60, Subpart J.

E. 40 CFR 60, Subpart Ja (Unit SRU3)

Requirement: The permittee shall comply with the applicable requirements of 40 CFR 60, Subpart Ja.

Monitoring: The permittee shall install a continuous monitoring device to monitor compliance with the H₂S limit. (40 CFR 60.105a(a)(3-4))

Recordkeeping: The permittee shall maintain the continuous emission records.

Reporting: The permittee shall comply with the reporting requirements of 40 CFR 60, Subpart Ja.

A208 Amine Unit – Not Required

A209 Fugitives

- A. NSPS Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after January 4, 1983, and on or before November 7, 2006 (Fugitives subject in Table [103.B](#))

Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart GGG for all sources in Table 103.B (affected units and voluntarily units). This table also includes areas that are voluntarily following the NSPS Subpart GGG monitoring requirements. (See footnote 1 to Table 103.B)

Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 60, Subpart GGG.

Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements

of 40 CFR 60, Subpart GGG.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart GGG.

- B. NSPS Subpart GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (Fugitives subject in Table [103.B](#))

Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart GGGa for all sources in Table 103.B (affected units and voluntarily units). This table also includes areas that are voluntarily following the NSPS Subpart GGGa monitoring requirements.

Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 60, Subpart GGGa.

Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart GGGa.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart GGGa.

- C. MACT Subpart CC, “National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries” (Fugitives subject in Table [103.B](#))

Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, “National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries” for all affected sources shown in [Tables 103.B](#). (63.640).

For all activities in Table 103.B that are not subject to MACT CC, the permittee voluntarily performs a LDAR program for those units and that program meets the requirements of MACT CC.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.

- D. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (Fugitives subject in Table [103.B](#))

Requirement The permittee shall comply with all applicable requirements of NSPS, 40 CFR Part 60.690, Subpart QQQ.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695)

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.696.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.697.

- E. Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available Significant permit revision in accordance with 20.2.72 NMAC. The facility wide fugitive VOC emission limit shown above and in Table 106.A of this permit.

A210 Loading Racks

A. Truck and Rail Loading (Unit shown in Table [106.G](#))

Requirement: Compliance with the allowable emission limits in Table [106.G](#) shall be demonstrated by not exceeding the monthly rolling 12-month total throughput for each loading rack for each different product in gallons per year (barrels/year).

Monitoring: The permittee shall monitor the throughput volumes on a monthly basis.

Recordkeeping: The permittee shall record the monthly throughput volume for each loading rack for each different product. Each month during the first 12 months of monitoring the permittee shall record the cumulative condensate loadout volume and after the first 12 months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total loadout volume.

Records shall also be maintained in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

B. Fuel Truck Loading Rack (Units subject in Table [103.D](#)) (40 CFR 63, Subpart CC)

Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries. Specially, the truck loading rack shall be equipped with a carbon adsorption system for compliance with the MACT requirements.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. Specifically 63.427(a)(2), where a carbon adsorption system is used, a continuous emission monitoring system (CEMS) capable of measuring organic compound concentration shall be installed in the exhaust air stream.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart CC.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart CC.

A211 Fluid Catalytic Cracking Unit (FCC)**A. Continuous Monitor System (CMS) (Unit FCC REGEN)****Requirement:**

(1) Consent Decree Limits on PM and SO₂ emissions from the FCC: By no later than December 31, 2003, the Wet Gas Scrubber (WGS) on the FCC Regenerator shall comply with the following limits: (CD ¶12.B & ¶13.B)

- (a) SO₂ concentration not to exceed 25 ppmvd on a daily rolling 365-day average basis and 50 ppmvd on a daily rolling 7-day average basis, each corrected to 0% oxygen. Compliance with this emissions limit shall be demonstrated on an ongoing basis through the use of CMS; and
- (b) a particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis (CD ¶13.B). To demonstrate compliance with this requirement, the Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9, Opacity Test in accordance with their approved Alternative Monitoring Plan (AMP).
- (c) As the FCC Regenerator is subject to the provisions of 40 CFR 60.102 (NSPS Subpart J), it shall not discharge to the atmosphere gases exhibiting greater than 30 percent opacity, except for one six-minute average opacity reading in any one-hour period.

(2) Consent Decree Limits on NO_x and CO emissions from the FCC: The FCC shall comply with NO_x and CO emission limits as follows:

- (a) The concentration-based (ppmvd) NO_x emission limit based on daily rolling 7-day and daily rolling 365-day averages, corrected to 0% oxygen as established pursuant to the Consent Decree, unless EPA rejects the proposed limit and establishes a different NO_x emission limit, in which case the FCC shall comply with EPA's established limit. Under no circumstances shall this emission limit be greater than a concentration-based limit that would be equivalent to 34.9 lbs/hr. The 7-day FCC NO_x emission limits, shall not apply during periods of Hydrotreater Outage provided that the FCC (including associated air pollution control equipment) is maintained and operated in a manner that minimizes emissions in accordance with an EPA-approved good air pollution control practices plan. Navajo shall comply with the plan at all times, including periods of startup, shutdown, and malfunction of the hydrotreater. The daily rolling 365-day average NO_x emissions limit shall apply during periods of hydrotreater outages. The NO_x limits are:
 - (1) 87.3 ppmvd NO_x, corrected to 0% O₂ on a daily rolling 7-day average, and
 - (2) 58.1 ppmvd NO_x, corrected to 0% O₂ on a daily rolling 365-day average
- (b) The NSPS Subpart J emission limit of 500 ppmvd CO corrected to 0% O₂ on a 1-hour average basis and 100 ppmvd CO corrected to 0% O₂ on a daily rolling 365-day average basis, by no later than December 31, 2003.

Monitoring:

(1) A continuous monitor system (CMS) for CO, O₂, SO₂ and NO_x shall be installed, calibrated, maintained, and operated on the FCC Catalyst Regenerator vent stack(s) downstream of the scrubber in accordance with 40 CFR Part 60, §60.13, Appendix A, and the applicable performance specifications of Appendices B (Specifications 2 and 3) and F.

The CMS shall be used to demonstrate compliance with CO, SO₂ and NO_x emissions limits and to report compliance with the terms and conditions of the Consent Decree.

The CMS and process data shall be made available, by permittee, to applicable Federal and State Agencies (NMED) upon demand as soon as practicable. (CD ¶11.F, 12 D, and 14.C)

(2) The FCC Regenerator Scrubber NO_x, SO₂, CO and O₂ CMS shall be recertified annually.

(3) The CMS data shall be monitored to ensure the CO, SO₂ and NO_x emission limits for the FCC are met.

(4) The Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9 Opacity test to demonstrate compliance with the particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis and opacity limit of 30%.

Permittee shall meet testing requirements of B111.

Recordkeeping: The permittee shall maintain the records of:

(1) The certification and re-certification of the CMS.

(2) Modifications to the FCC's good air pollution control practice plan to minimize NO_x emissions shall be summarized on an annual basis if any changes were made. (CD ¶11.G)

(3) The permittee shall keep records of CMS data monitoring NO₂, SO₂, PM₁₀ and CO emissions from the FCC. (CD ¶11.F, CD ¶12.D & CD ¶14.C)

(4) Records of NO_x, CO, SO₂ ppmvd, lb/hr, tpy; PM lb/hr, tpy and opacity. TPY shall be based on a monthly rolling 12-month total.

(5) The permittee shall keep records of annual PM stack tests and weekly Method 9 observations conducted on the FCC. For any opacity observations conducted in accordance with the requirements of EPA Method 9, record the information on the form referenced in EPA Method 9, Sections 2.2 and 2.4.

Reporting: The permittee shall report in accordance with Section B110 and testing requirements of B111.

B. Performance Testing (Unit FCC REGEN)**Requirements:**

(1) The permittee shall demonstrate compliance with the NSPS Subpart J particulate matter emission limit at Table 106.A by conducting an initial performance test in accordance with NSPS Subpart A, §60.8 and NSPS Subpart J, §60.106(b). The particulate matter stack test

shall be repeated on an annual basis.

(2) The permittee shall comply with all applicable performance testing requirements in accordance with MACT Subparts A and UUU.

Monitoring: Testing shall be conducted in accordance with NSPS Subparts A and J, and in accordance with MACT Subparts A and UUU.

Recordkeeping: The permittee shall maintain performance test records in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance with Section B109.

Reporting: The permittee shall report performance test results in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance with Section B110.

A212 Cooling Towers

A. MACT Subpart CC, “National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries” (Cooling Towers subject in Table [103.F](#))

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart CC for heat exchange systems for all affected sources shown in Table [103.F](#) attached. (63.654(a), 63.640(h)(6))

Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. (63.654(c), (d), (e), (f))

Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart CC. (63.654(g), 63.655(i)(4), (i)(5))

Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart CC. (63.655(f), (f)(1)(vi), (g)(9), (h)(1), (7))

B. Cooling Tower Operations (Cooling Towers subject in Table [103.F](#))

Requirement: Compliance with the allowable emission limits in Table [106.H](#) shall be demonstrated by meeting the following requirements:

- 1) operate a maximum of six (6) recirculating pumps at any one time;
- 2) ensure that each pump capacity shown in Table 104.A are not exceeded gallons per minute for each cooling tower (65,500 gpm total maximum rate for 6 pumps);
- 3) limit the Total Dissolved Solids (TDS) content for the cooling tower recirculating water system to 3500 ppmw, based on a monthly rolling 12-month annual average;
- 4) ensure that the drift eliminator are rated by the manufacturer at 0.001% or 0.003 drift or less as shown in Table [104.A](#); and
- 5) ensure that the drift eliminator is present and in good working order.

The permittee shall measure the Total Dissolved Solids (TDS) content of the recirculating water through direct laboratory analysis, or may use a conductivity meter on the recirculating water system for the cooling tower. The correlation between conductivity of the water and the

TDS content shall be taken as $0.9 * \text{conductivity } (\mu\text{mhos/cm}) = \text{TDS (ppmw)}$ unless a new correlation is determined through laboratory analysis and submitted to the Permit Program Manager for approval.

Monitoring: The permittee shall:

- 1) Monitor the recirculating water TDS content by direct laboratory analysis of the TDS or through use of conductivity meter values and correlated TDS on a monthly basis; and
 - a. Any correlation other than the 0.9 value described above shall be developed by the permittee by independent laboratory measurement of at least 10 water samples with approximately evenly spaced measured TDS values that bracket the minimum and maximum values expected. The highest laboratory TDS sample used for the correlation shall be greater than the maximum allowable TDS of 3500 ppmw.
- 2) Perform an annual inspection of the drift eliminator and perform any maintenance necessary to ensure the device operates according to the manufacturer's specifications.
- 3) The permittee shall monitor the cooling water inlet and outlet streams for hydrocarbons on an annual basis using either EPA Method 8015 with a large enough sample to achieve accurate quantification of hydrocarbon content, EPA Method 8260, EPA Method 8270 or a similar method as approved by the Department prior to testing.

Recordkeeping: The permittee shall maintain the following records:

- 1) Manufacturer's specifications demonstrating maximum capacities of the recirculating water pumps and the manufacturer's specification for the drift eliminator specified drift rate;
- 2) Monthly TDS and monthly rolling 12-month average;
- 3) If a conductivity meter is installed, a record of the correlation between conductivity and TDS, any laboratory analyses used to determine the correlation, and all related calculations;
- 4) Annual drift eliminator inspection and any records of maintenance performed.

The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

A213 Wastewater Systems

- A. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (Unit MAIN API)

Requirement: Beginning December 31, 2003, all remaining and newly installed individual drain systems, oil-water separators, and aggregate facilities not previously specified shall be affected facilities, as the term is used in the NSPS, 40 CFR Part 60, Subpart QQQ, and shall be subject to and comply with the applicable requirements of 40 CFR Part 60, Subpart QQQ.

(CD ¶29)
The permittee shall comply with all applicable requirements of NSPS Subpart QQQ for the affected sources in Tables 103.B, C, G . (60.690)
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695 and 60.696)
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.697.
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.698.

B. MACT Subpart CC, “National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries”

Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, “National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries” for all affected sources shown in Tables 103.B, C, G attached. (63.640).
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.

C. Wastewater Treatment System (Units shown in Table [106.I](#))

Requirement: Compliance with the emission limits in Table 106.I shall be demonstrated by properly maintaining and repairing the units, and running the Wastewater Model annually to calculate the maximum VOC emissions generated.
Monitoring: (1) Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events: (a) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period. (b) Unscheduled repairs that require a unit to be taken out of service for more than two hours in any twenty-four hour period. (2) The permittee shall annually run the Waste-Water Model to determine the hourly and annual emission rates, based on Toxchem V4 Input Parameters.
Recordkeeping: (1) The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's

recommended maintenance schedule.

(2) The permittee shall maintain records of the Toxchem V4 Input Parameters and the emission calculation results compared to permit limits.

Reporting: The permittee shall report in accordance with Section B110.

PART B GENERAL CONDITIONS

B100 Introduction

A. Not Applicable

B101 Legal

A. Permit Terms and Conditions (20.2.70 sections 7, 201.B, 300, 301.B, 302, 405 NMAC)

- (1) The permittee shall abide by all terms and conditions of this permit, except as allowed under Section 502(b)(10) of the Federal Act, and 20.2.70.302.H.1 NMAC. Any permit noncompliance is grounds for enforcement action, and significant or repetitious noncompliance may result in termination of this permit. Additionally, noncompliance with federally enforceable conditions of this permit constitutes a violation of the Federal Act. (20.2.70.302.A.2.a NMAC)
- (2) Emissions trading within a facility (20.2.70.302.H.2 NMAC)
 - (a) The Department shall, if an applicant requests it, issue permits that contain terms and conditions allowing for the trading of emissions increases and decreases in the permitted facility solely for the purpose of complying with a federally enforceable emissions cap that is established in the permit in addition to any applicable requirements. Such terms and conditions shall include all terms and conditions required under 20.2.70.302 NMAC to determine compliance. If applicable requirements apply to the requested emissions trading, permit conditions shall be issued only to the extent that the applicable requirements provide for trading such increases and decreases without a case-by-case approval.
 - (b) The applicant shall include in the application proposed replicable procedures and permit terms that ensure the emissions trades are quantifiable and enforceable. The Department shall not include in the emissions trading provisions any emissions units for which emissions are not quantifiable or for which there are no replicable procedures to enforce the emissions trades. The permit shall require compliance with all applicable requirements.
- (3) It shall not be a defense for the permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (20.2.70.302.A.2.b NMAC)
- (4) If the Department determines that cause exists to modify, reopen and revise, revoke and reissue, or terminate this permit, this shall be done in accordance with 20.2.70.405 NMAC. (20.2.70.302.A.2.c NMAC)

- (5) The permittee shall furnish any information the Department requests in writing to determine if cause exists for reopening and revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. This information shall be furnished within the time period specified by the Department. Additionally, the permittee shall furnish, upon request by the Department, copies of records required by the permit to be maintained by the permittee. (20.2.70.302.A.2.f NMAC)
- (6) A request by the permittee that this permit be modified, revoked and reissued, or terminated, or a notification by the permittee of planned changes or anticipated noncompliance, shall not stay any conditions of this permit. (20.2.70.302.A.2.d NMAC)
- (7) This permit does not convey property rights of any sort, or any exclusive privilege. (20.2.70.302.A.2.e NMAC)
- (8) In the case where an applicant or permittee has submitted information to the Department under a claim of confidentiality, the Department may also require the applicant or permittee to submit a copy of such information directly to the Administrator of the EPA. (20.2.70.301.B NMAC)
- (9) The issuance of this permit, or the filing or approval of a compliance plan, does not relieve the permittee from civil or criminal liability for failure to comply with the state or Federal Acts, or any applicable state or federal regulation or law. (20.2.70.302.A.6 NMAC and the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2)
- (10) If any part of this permit is challenged or held invalid, the remainder of the permit terms and conditions are not affected and the permittee shall continue to abide by them. (20.2.70.302.A.1.d NMAC)
- (11) A responsible official (as defined in 20.2.70.7.AE NMAC) shall certify the accuracy, truth and completeness of every report and compliance certification submitted to the Department as required by this permit. These certifications shall be part of each document. (20.2.70.300.E NMAC)
- (12) Revocation or termination of this permit by the Department terminates the permittee's right to operate this facility. (20.2.70.201.B NMAC)
- (13) The permittee shall continue to comply with all applicable requirements. For applicable requirements that will become effective during the term of the permit, the permittee shall meet such requirements on a timely basis. (Sections 300.D.10.c and 302.G.3 of 20.2.70 NMAC)

B. Permit Shield (20.2.70.302.J NMAC)

- (1) Compliance with the conditions of this permit shall be deemed to be compliance with any applicable requirements existing as of the date of permit issuance and

identified in [Table 103.A](#). The requirements in [Table 103.A](#) are applicable to this facility with specific requirements identified for individual emission units.

- (2) The Department has determined that the requirements in [Table 103.B](#) as identified in the permit application are not applicable to this source, or they do not impose any conditions in this permit.
 - (3) This permit shield does not extend to administrative amendments (Subsection A of 20.2.70.404 NMAC), to minor permit modifications (Subsection B of 20.2.70.404 NMAC), to changes made under Section 502(b)(10), changes under Paragraph 1 of subsection H of 20.2.70.302 of the Federal Act, or to permit terms for which notice has been given to reopen or revoke all or part under 20.2.70.405 and 20.2.70.302J(6).
 - (4) This permit shall, for purposes of the permit shield, identify any requirement specifically identified in the permit application or significant permit modification that the department has determined is not applicable to the source, and state the basis for any such determination. (20.2.70.302.A.1.f NMAC)
- C. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollutant control practices for minimizing emissions. (20.2.7.109 NMAC). The establishment of allowable malfunction emission limits does not supersede this requirement.

B102 Authority

- A. This permit is issued pursuant to the federal Clean Air Act ("Federal Act"), the New Mexico Air Quality Control Act ("State Act") and regulations adopted pursuant to the State and Federal Acts, including Title 20, New Mexico Administrative Code, Chapter 2, Part 70 (20.2.70 NMAC) - Operating Permits.
- B. This permit authorizes the operation of this facility. This permit is valid only for the named permittee, owner, and operator. A permit modification is required to change any of those entities.
- C. The Department specifies with this permit, terms and conditions upon the operation of this facility to assure compliance with all applicable requirements, as defined in 20.2.70 NMAC at the time this permit is issued. (20.2.70.302.A.1 NMAC)
- D. Pursuant to the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2, all terms and conditions in this permit, including any provisions designed to limit this facility's potential to emit, are enforceable by the Department. All terms and conditions are enforceable by the Administrator of the United States Environmental Protection Agency ("EPA") and citizens under the Federal Act, unless the term or condition is specifically

designated in this permit as not being enforceable under the Federal Act. (20.2.70.302.A.5 NMAC)

- E. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the Modification and Exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).

B103 Annual Fee

- A. The permittee shall pay Title V fees to the Department consistent with the fee schedule in 20.2.71 NMAC - Operating Permit Emission Fees. The fees will be assessed and invoiced separately from this permit. (20.2.70.302.A.1.e NMAC)

B104 Appeal Procedures
(20.2.70.403.A NMAC)

- A. Any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for a hearing before the Environmental Improvement Board ("board"). The petition shall be made in writing to the board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered, and attach a copy of the permitting action for which review is sought. Unless a timely request for a hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to:

Secretary, New Mexico Environmental Improvement Board
1190 St. Francis Drive, Runnels Bldg. Rm N2153
Santa Fe, New Mexico 87502

B105 Submittal of Reports and Certifications

- A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to Stacktest.AQB@state.nm.us or as directed by the Department.
- B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC)
- C. Compliance Certification Reports, Semi-Annual monitoring reports, compliance schedule progress reports, and any other compliance status information required by this permit shall be certified by the responsible official and submitted to the mailing address below, or as directed by the Department:

Manager, Compliance and Enforcement Section
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez Suite 1
Santa Fe, NM 87505-1816

- D. Compliance Certification Reports shall also be submitted to the Administrator at the address below (20.2.70.302.E.3 NMAC):

Chief, Air Enforcement Section
US EPA Region-6, 6EN-AA
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

B106 NSPS and/or MACT Startup, Shutdown, and Malfunction Operations

- A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c).
- B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.
- C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart. (20.2.70.302.A.1 and A.4 NMAC)

B107 Startup, Shutdown, and Maintenance Operations

- A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (20.2.7.14.A NMAC)

B108 General Monitoring Requirements
(20.2.70. 302.A and C NMAC)

- A. These requirements do not supersede or relax requirements of federal regulations.
- B. The following monitoring and/or testing requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer.
- C. If the emission unit is shutdown at the time when periodic monitoring is due to be accomplished, the permittee is not required to restart the unit for the sole purpose of performing the monitoring. Using electronic or written mail, the permittee shall notify the Department's Enforcement Section of a delay in emission tests prior to the deadline for accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish the monitoring.
- D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke monitoring period exemptions at B108.D(2), hours of operation shall be monitored and recorded.
 - (1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period.
 - (2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods.
 - (3) If invoking the monitoring period exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during the five year term of this permit.
- E. The permittee is not required to report a deviation for any monitoring or testing in a Specific Condition if the deviation was authorized in this General Condition [B108](#).

- F. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.
- G. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.
- H. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance. All monitoring periods, unless stated otherwise in the specific permit condition or federal requirement, shall commence at the beginning of the 12 month reporting period as defined at condition A109.B.

B109 General Recordkeeping Requirements
(20.2.70.302.D NMAC)

- A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any applicable requirements that become effective during the term of this permit. The minimum information to be included in these records is as follows (20.2.70.302.D.1 NMAC):
 - (1) Records required for testing and sampling:
 - (a) equipment identification (include make, model and serial number for all tested equipment and emission controls)
 - (b) date(s) and time(s) of sampling or measurements
 - (c) date(s) analyses were performed
 - (d) the qualified entity that performed the analyses
 - (e) analytical or test methods used
 - (f) results of analyses or tests
 - (g) operating conditions existing at the time of sampling or measurement

- (2) Records required for equipment inspections and/or maintenance required by this permit:
 - (a) equipment identification number (including make, model and serial number)
 - (b) date(s) and time(s) of inspection, maintenance, and/or repair
 - (c) date(s) any subsequent analyses were performed (if applicable)
 - (d) name of the person or qualified entity conducting the inspection, maintenance, and/or repair
 - (e) copy of the equipment manufacturer's or the owner or operator's maintenance or repair recommendations (if required to demonstrate compliance with a permit condition)
 - (f) description of maintenance or repair activities conducted
 - (g) all results of any required parameter readings
 - (h) a description of the physical condition of the equipment as found during any required inspection
 - (i) results of required equipment inspections including a description of any condition which required adjustment to bring the equipment back into compliance and a description of the required adjustments
- B. The permittee shall keep records of all monitoring data, equipment calibration, maintenance, and inspections, Data Acquisition and Handling System (DAHS) if used, reports, and other supporting information required by this permit for at least five (5) years from the time the data was gathered or the reports written. Each record shall clearly identify the emissions unit and/or monitoring equipment, and the date the data was gathered. (20.2.70.302.D.2 NMAC)
- C. If the permittee has applied and received approval for an alternative operating scenario, then the permittee shall maintain a log at the facility, which documents, contemporaneously with any change from one operating scenario to another, the scenario under which the facility is operating. (20.2.70.302.A.3 NMAC)
- D. The permittee shall keep a record describing off permit changes made at this source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes. (20.2.70.302.I.2 NMAC)
- E. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine and predictable emissions during startup, shutdown, and scheduled maintenance (SSM):
 - (1) The owner or operator of a source subject to a permit, shall establish and implement a plan to minimize emissions during routine or predictable startup,

shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC - Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. (20.2.7.14.A NMAC) The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC.

- (2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies.
- (3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.
- (4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

B110 General Reporting Requirements
(20.2.70.302.E NMAC)

- A. Reports of required monitoring activities for this facility shall be submitted to the Department on the schedule in section A109. Monitoring and recordkeeping requirements that are not required by a NSPS or MACT shall be maintained on-site or (for unmanned

sites) at the nearest company office, and summarized in the semi-annual reports, unless alternative reporting requirements are specified in the equipment specific requirements section of this permit.

- B. Reports shall clearly identify the subject equipment showing the emission unit ID number according to this operating permit. In addition, all instances of deviations from permit requirements, including those that occur during emergencies, shall be clearly identified in the reports required by section A109. (20.2.70.302.E.1 NMAC)
- C. The permittee shall submit reports of all deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. These reports shall be submitted as follows:
 - (1) Deviations resulting in excess emissions as defined in 20.2.7.7 NMAC (including those classified as emergencies as defined in section B114.A) shall be reported in accordance with the timelines specified by 20.2.7.110 NMAC and in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC)
 - (2) All other deviations shall be reported in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC).
- D. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC.
- E. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format.
- F. At such time as new units are installed as authorized by the applicable NSR Permit, the permittee shall fulfill the notification requirements in the NSR permit.
- G. Periodic Emissions Test Reporting: The permittee shall report semi-annually a summary of the test results.
- H. The permittee shall submit an emissions inventory report for this facility in accordance with the schedule in subparagraph (5), provided one or more of the following criteria is met in subparagraphs (1) to (4): (20.2.73 NMAC)
 - (1) The facility emits, or has the potential to emit, 5 tons per year or more of lead or lead compounds, or 100 tons per year or more of PM10, PM2.5, sulfur oxides, nitrogen oxides, carbon monoxide, or volatile organic compounds.

- (2) The facility is defined as a major source of hazardous air pollutants under 20.2.70 NMAC (Operating Permits).
- (3) The facility is located in an ozone nonattainment area and which emits, or has the potential to emit, 25 tons per year or more of nitrogen oxides or volatile organic compounds.
- (4) Upon request by the department.
- (5) The permittee shall submit the emissions inventory report by April 1 of each year, unless a different deadline is specified by the current operating permit.

I. Emissions trading within a facility (20.2.70.302.H.2 NMAC)

- (1) For each such change, the permittee shall provide written notification to the department and the administrator at least seven (7) days in advance of the proposed changes. Such notification shall state when the change will occur and shall describe the changes in emissions that will result and how these increases and decreases in emissions will comply with the terms and conditions of the permit.
- (2) The permittee and department shall attach each such notice to their copy of the relevant permit.

B111 General Testing Requirements

A. Compliance Tests

- (1) Compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. (20.2.72 NMAC Sections 210.C and 213)
- (2) Compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.
- (3) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the

Department approval, be determined using the arithmetic mean of the results of the two other runs.

- (4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate, subject to the approval of the Department.
- (5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.
- (6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

B. EPA Reference Method Tests

- (1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of this permit, shall be conducted in accordance with the requirements of 40 CFR 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by 40 CFR 60, Appendix A:
 - (a) Methods 1 through 4 for stack gas flowrate
 - (b) Method 5 for TSP
 - (c) Method 6C and 19 for SO₂
 - (d) Method 7E for NO_x (test results shall be expressed as nitrogen dioxide (NO₂) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO₂ is equivalent to 1.194×10^{-7} lb/SCF))
 - (e) Method 9 for opacity
 - (f) Method 10 for CO
 - (g) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter).
 - (h) Method 7E or 20 for Turbines per 60.335 or 60.4400
 - (i) Method 29 for Metals
 - (j) Method 201A for filterable PM₁₀ and PM_{2.5}
 - (k) Method 202 for condensable PM
 - (l) Method 320 for organic Hazardous Air Pollutants (HAPs)
 - (m) Method 25A for VOC reduction efficiency

(n) Method 30B for Mercury

(2) Alternative test method(s) may be used if the Department approves the change.

C. Periodic Monitoring and Portable Analyzer Requirements

(1) Periodic emissions tests (periodic monitoring) may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of ASTM D 6522-00. However, if a facility has met a previously approved Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced.

(2) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 20 minutes.

Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit.

(3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.F.

(4) During emissions tests, pollutant and diluent concentration shall be monitored and recorded. Fuel flow rate shall be monitored and recorded if stack gas flow rate is determined utilizing Method 19. This information shall be included with the test report furnished to the Department.

(5) Stack gas flow rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) determined by a dedicated fuel flow meter and fuel heating value (Btu/scf) determined from a fuel sample obtained preferably during the day of the test, but no earlier than three months prior to the test date. Alternatively, stack gas flow rate may be determined by using EPA Methods 1-4.

D. Test Procedures:

(1) The permittee shall notify the Department's Program Manager, Compliance and Enforcement Section at least thirty (30) days before the test to afford a representative of the Department an opportunity to be present at the test. (40CFR 60.8(d))

(2) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.

(3) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing.

- (4) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment.
- (5) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Method 1 or ASTM D 6522-00 as applicable.
- (6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed
- (7) Unless otherwise indicated by Specific Conditions or regulatory requirements, test reports shall be submitted to the Department no later than 30 days after completion of the test.

B112 Compliance

- A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)
- B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.70.302.G.3 NMAC)
- C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit. (20.2.70.302.A.1 and G.3 NMAC)
- D. The permittee shall submit compliance certification reports certifying the compliance status of this facility with respect to all permit terms and conditions, including applicable requirements. These reports shall be made on the pre-populated Compliance Certification Report Form that is provided to the permittee by the Department, and shall be submitted to the Department and to EPA at least every 12 months. For the most current form, please

contact the Compliance Reports Group at email:reportsgroup.aqb@state.nm.us. For additional reporting guidance see http://www.nmenv.state.nm.us/aqb/enforce_compliance/TitleVReporting.htm. (20.2.70.302.E.3 NMAC)

- E. The permittee shall allow representatives of the Department, upon presentation of credentials and other documents as may be required by law, to do the following (20.2.70.302.G.1 NMAC):
- (1) enter the permittee's premises where a source or emission unit is located, or where records that are required by this permit to be maintained are kept;
 - (2) have access to and copy, at reasonable times, any records that are required by this permit to be maintained;
 - (3) inspect any facilities, equipment (including monitoring and air pollution control equipment), work practices or operations regulated or required under this permit; and
 - (4) sample or monitor any substances or parameters for the purpose of assuring compliance with this permit or applicable requirements or as otherwise authorized by the Federal Act.

B113 Permit Reopening and Revocation

- A. This permit will be reopened and revised when any one of the following conditions occurs, and may be revoked and reissued when A(3) or A(4) occurs. (20.2.70.405.A.1 NMAC)
- (1) Additional applicable requirements under the Federal Act become applicable to a major source three (3) or more years before the expiration date of this permit. If the effective date of the requirement is later than the expiration date of this permit, then the permit is not required to be reopened unless the original permit or any of its terms and conditions has been extended due to the Department's failure to take timely action on a request by the permittee to renew this permit.
 - (2) Additional requirements, including excess emissions requirements, become applicable to this source under Title IV of the Federal Act (the acid rain program). Upon approval by the Administrator, excess emissions offset plans will be incorporated into this permit.
 - (3) The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the terms and conditions of the permit.
 - (4) The Department or the Administrator determines that the permit must be revised or revoked and reissued to assure compliance with an applicable requirement.
- B. Proceedings to reopen or revoke this permit shall affect only those parts of this permit for which cause to reopen or revoke exists. Emissions units for which permit conditions have

been revoked shall not be operated until new permit conditions have been issued for them.
(20.2.70.405.A.2 NMAC)

B114 Emergencies

(20.2.70.304 NMAC)

- A. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the permittee, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, or careless or improper operation.
- B. An emergency constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations contained in this permit if the permittee has demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - (2) This facility was at the time being properly operated;
 - (3) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; and
 - (4) The permittee submitted notice of the emergency to the Department within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirement of 20.2.70.302.E.2 NMAC. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- C. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- D. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

B115 Stratospheric Ozone

(20.2.70.302.A.1 NMAC)

- A. If this facility is subject to 40 CFR 82, Subpart F, the permittee shall comply with the following standards for recycling and emissions reductions:

- (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices, except for motor vehicle air conditioners (MVAC) and MVAC-like appliances. (40 CFR 82.156)
- (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment. (40 CFR 82.158)
- (3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program. (40 CFR 82.161)

B116 Acid Rain Sources
(20.2.70.302.A.9 NMAC)

- A. If this facility is subject to the federal acid rain program under 40 CFR 72, this section applies.
- B. Where an applicable requirement of the Federal Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Federal Act, both provisions are incorporated into this permit and are federally enforceable.
- C. Emissions exceeding any allowances held by the permittee under Title IV of the Federal Act or the regulations promulgated thereunder are prohibited.
- D. No modification of this permit is required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit modification under any other applicable requirement.
- E. The permittee may not use allowances as a defense to noncompliance with any other applicable requirement.
- F. No limit is placed on the number of allowances held by the acid rain source. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Federal Act.
- G. The acid rain permit is an enclosure of this operating permit.

B117 Risk Management Plan
(20.2.70.302.A.1 NMAC)

- A. If this facility is subject to the federal risk management program under 40 CFR 68, this section applies.
- B. The owner or operator shall certify annually that they have developed and implemented a RMP and are in compliance with 40 CFR 68.

- C. If the owner or operator of the facility has not developed and submitted a risk management plan according to 40 CFR 68.150, the owner or operator shall provide a compliance schedule for the development and implementation of the plan. The plan shall describe, in detail, procedures for assessing the accidental release hazard, preventing accidental releases, and developing an emergency response plan to an accidental release. The plan shall be submitted in a method and format to a central point as specified by EPA prior to the date specified in 40 CFR 68.150.b.

PART C MISCELLANEOUS

C100 Supporting On-Line Documents

- A. Copies of the following documents can be downloaded from NMED's web site under Compliance and Enforcement or requested from the Bureau.
- (1) Excess Emission Form (for reporting deviations and emergencies)
 - (2) Compliance Certification Report Form
 - (3) Universal Stack Test Notification, Protocol and Report Form and Instructions
 - (4) SOP for Use of Portable Analyzers in Performance Tests

C101 Definitions

- A. **"Daylight"** is defined as the time period between sunrise and sunset, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at <http://aa.usno.navy.mil/>. Alternatively, these times can be obtained from a Farmers Almanac or from <http://www.almanac.com/rise/>).
- B. **"Exempt Sources"** and **"Exempt Activities"** is defined as those sources or activities that are exempted in accordance with 20.2.72.202 NMAC. Note; exemptions are only valid for most 20.2.72 permitting action.
- C. **"Fugitive emission"** means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. (20.2.70.7M NMAC)
- D. **"Insignificant Activities"** means those activities which have been listed by the department and approved by the administrator as insignificant on the basis of size, emissions or production rate. (20.2.70.7Q NMAC)
- E. **"Malfunction"** for the requirements under 20.2.7 NMAC, means any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A

failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction.

- F. **“Natural Gas”** is defined as a naturally occurring fluid mixture of hydrocarbons that contains 20.0 grains or less of total sulfur per 100 standard cubic feet (SCF) and is either composed of at least 70% methane by volume or has a gross calorific value of between 950 and 1100 Btu per standard cubic foot. (40 CFR 60.331)
- G. **“Natural Gas Liquids”** means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas. (40 CFR 60.631)
- H. **“National Ambient Air Quality Standards”** means the primary (health-based) and secondary (welfare-related) federal ambient air quality standards promulgated by the US EPA pursuant to Section 109 of the Federal Act. (20.2.72.7Q NMAC)
- I. **“NO₂”** or **“Nitrogen dioxide”** means the chemical compound containing one atom of nitrogen and two atoms of oxygen, for the purposes of ambient determinations. The term **“nitrogen dioxide,”** for the purposes of stack emissions monitoring, shall include nitrogen dioxide (the chemical compound containing one atom of nitrogen and two atoms of oxygen), nitric oxide (the chemical compound containing one atom of nitrogen and one atom of oxygen), and other oxides of nitrogen which may test as nitrogen dioxide and is sometimes referred to as NO_x or NO₂. (20.2.2.7U NMAC)
- J. **“NO_x”** see NO₂
- K. **“Paved Road”** is a road with a permanent solid surface that can be swept essentially free of dust or other material to reduce air re-entrainment of particulate matter. To the extent these surfaces remain solid and contiguous they qualify as paved roads: concrete, asphalt, chip seal, recycled asphalt and other surfaces approved by the Department in writing.
- L. **“Potential Emission Rate”** means the emission rate of a source at its maximum capacity to emit a regulated air contaminant under its physical and operational design, provided any physical or operational limitation on the capacity of the source to emit a regulated air contaminant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its physical and operational design only if the limitation or the effect it would have on emissions is enforceable by the department pursuant to the Air Quality Control Act or the Federal Act. (20.2.72.7Y NMAC)
- M. **“Restricted Area-Non Military”** is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.
- N. **“Shutdown”** for requirements under 20.2.72.7BB NMAC, means the cessation of operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing out of batch process units.

- O. **"SSM"** for requirements under 20.2.7 NMAC, means routine or predictable startup, shutdown, or scheduled maintenance.
- (1) **"Shutdown"** for requirements under 20.2.7.7H NMAC, means the cessation of operation of any air pollution control equipment or process equipment.
 - (2) **"Startup"** for requirements under 20.2.7.7I NMAC, means the setting into operation of any air pollution control equipment or process equipment.
- P. **"Startup"** for requirements under 20.2.7.7DD NMAC, means the setting into operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing in of batch process units.

C102 Acronyms

2SLB	2-stroke lean burn
4SLB	4-stroke lean burn
4SRB	4-stroke rich burn
acfm	actual cubic feet per minute
AFR	air fuel ratio
AP-42	EPA Air Pollutant Emission Factors
AQB	Air Quality Bureau
AQCR	Air Quality Control Region
ASTM	American Society for Testing & Materials
Btu	British thermal unit
CAA	Clean Air Act of 1970 and 1990 Amendments
CEM	continuous emissions monitoring
cfh	cubic feet per hour
cfm	cubic feet per minute
CFR	Code of Federal Regulation
CI	compression ignition
CO	carbon monoxide
COMS	continuous opacity monitoring system
EIB	Environmental Improvement Board
EPA	United States Environmental Protection Agency
gr/100 cf	grains per one hundred cubic feet
gr/dscf	grains per dry standard cubic foot
GRI	Gas Research Institute
H ₂ S	hydrogen sulfide
HAP	hazardous air pollutant
hp	horsepower
IC	Internal Combustion
KW/hr	kilowatts per hour
lb/hr	pounds per hour
lb/MMBtu	pounds per million British thermal unit
MACT	Maximum Achievable Control Technology
MMcf/hr	million cubic feet per hour

MMscf.....	million standard cubic feet
N/A.....	not applicable
NAAQS.....	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NG	natural gas
NGL	natural gas liquids
NMAAQs	New Mexico Ambient Air Quality Standards
NMAC.....	New Mexico Administrative Code
NMED.....	New Mexico Environment Department
NMSA	New Mexico Statutes Annotated
NO _x	nitrogen oxides
NSCR	non-selective Catalytic Reduction
NSPS	New Source Performance Standard
NSR.....	New Source Review
PEM	parametric emissions monitoring
PM.....	particulate matter (equivalent to TSP, total suspended particulate)
PM ₁₀	particulate matter 10 microns and less in diameter
PM _{2.5}	particulate matter 2.5 microns and less in diameter
pph.....	pounds per hour
ppmv	parts per million by volume
PSD	Prevention of Significant Deterioration
RATA.....	relative accuracy test assessment
RICE	reciprocating internal combustion engine
rpm	revolutions per minute
scfm.....	standard cubic feet per minute
SI	spark ignition
SO ₂	sulfur dioxide
SSM.....	Startup Shutdown Maintenance (see SSM definition)
TAP.....	Toxic Air Pollutant
TBD.....	to be determined
THC.....	total hydrocarbons
TSP.....	Total Suspended Particulates
tpy	tons per year
ULSD	ultra-low sulfur diesel
USEPA.....	United States Environmental Protection Agency
UTM.....	Universal Transverse Mercator Coordinate System
UTMH.....	Universal Transverse Mercator Horizontal
UTMV.....	Universal Transverse Mercator Vertical
VHAP.....	volatile hazardous air pollutant
VOC	volatile organic compounds

PART D ATTACHMENTS

Table 103.B, Summary Applicability – Fugitives [\[return\]](#)

Title V Permit Unit ID	Description	20.2.37	MACT CC	NSPS GGG	NSPS GGGa	NSPS QQQ	NESHAP J	NESHAP V	NAV-195-CC ¹
FUG-02-SP CRUDE	South Division Crude Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-05-KERO	Kerosene HDS Unit	NO	NO	NO	NO	YES	NO	NO	NO
FUG-06-NH DU	JP8 Hydrosulfurization	NO	YES	NO	NO	YES	NO	NO	NO
FUG-07-N AMINE	Amine Unit-Treating/Regen.	YES	NO	YES	NO	YES	NO	NO	YES
FUG-07-SWS1	Sour Water Stripper	YES	NO	YES	NO	YES	NO	NO	NO
FUG-08-TRUCK RK	Loading Racks	NO	YES	NO	YES	YES	NO	NO	NO
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-10-FCC	FCC w/CVS	YES	YES	YES	NO	YES	NO	NO	NO
FUG-13-NH DU	Naphtha HDS Unit	YES	YES	YES	NO	YES	NO	NO	NO
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	NO	YES	NO	NO	YES	NO	NO	NO
FUG-20-ISOM	Powerformer/Penex Unit w/CVS	NO	YES	NO	NO	YES	NO	NO	NO
FUG-21-SP VACUUM	Flasher/Vacuum Unit	NO	NO	NO	YES	YES	NO	NO	NO
FUG-25-ROSE-2	ROSE Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-29-BLENDER/TK FARM	Light Oil Tankage	NO	YES	NO	YES	YES	NO	NO	NO
FUG-31-SRU3/TGTU3/TG13	SRU3 Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/CVS	YES	YES	YES	NO	YES	NO	NO	NO
FUG-34-HYDROCRACKER	WX Hydrocracker	YES	YES	NO	YES	YES	NO	NO	NO
FUG-35-SAT GAS	Saturates Gas Plant	NO	YES	NO	NO	YES	NO	NO	NO
FUG-41-PBC	PBC Unit	NO	NO	NO	NO	YES	NO	NO	NO
FUG-43-S ALKY	South Alky Unit (W-76)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	YES	NO	NO	YES	NO	NO	NO
FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	YES	YES	NO	YES	NO	NO	NO
FUG-63-H2 PLANT-1	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO	NO
FUG-64-H2 PLANT-2	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO	NO
FUG-70-CCR	CCR Reformer (w/in battery limits)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-73-SP UTIL	Utilities	NO	NO	NO	NO	YES	NO	NO	NO

Table 103.B, Summary Applicability – Fugitives [\[return\]](#)

Title V Permit Unit ID	Description	20.2.37	MACT CC	NSPS GGG	NSPS GGGa	NSPS QQQ	NESHAP J	NESHAP V	NAV-195-CC ¹
FUG-80-WWTP CVS	Oil/Water Separator	YES	YES	YES	NO	YES	NO	NO	YES
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	NO	NO	NO	NO	YES	NO	NO	NO
FUG-FUEL GAS	Fuel Gas Distribution System	NO	YES	NO	NO	YES	NO	NO	NO
FUG-LPG	LPG Storage System	NO	NO	NO	NO	YES	NO	NO	YES
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	NO	NO	NO	NO	YES	NO	NO	NO
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/CVS	YES	NO	YES	NO	YES	NO	NO	YES
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks.	NO	NO	NO	NO	YES	NO	NO	NO

¹ NAV-195-CC represents those units not subject to MACT CC, but Navajo has decided to voluntarily to follow the fugitive LDAR program consistent with MACT CC monitoring requirements.

Table 103.C, Summary Applicability - [Tanks](#)

Tank No.	NSPS K	NSPS Ka	NSPS Kb	MACT CC Storage	MACT CC Wastewater	NESHAP FF	NSPS QQQ	20.2.37.205 NMAC	20.2.38.109 NMAC	20.2.38.110 NMAC	20.2.38.112 NMAC	20.2.38.113 NMAC	CAM
RW-4	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
RW-5	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	NO	NO
RW-6	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
T-0001	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0002	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0003	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0004	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
T-0011	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0012	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0013	NO	NO	NO	YES	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0026	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0028	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0031	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0040	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0041	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0042	NO	NO	NO	NO	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0045	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0046	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0049	NO	NO	NO	YES	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0055	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0056	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0057	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0059	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0061	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0063	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0064	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0065	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0071	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0072	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0073	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0074	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0075	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO

Table 103.C, Summary Applicability - [Tanks](#)

Tank No.	NSPS K	NSPS Ka	NSPS Kb	MACT CC Storage	MACT CC Wastewater	NESHAP FF	NSPS QQQ	20.2.37.205 NMAC	20.2.38.109 NMAC	20.2.38.110 NMAC	20.2.38.112 NMAC	20.2.38.113 NMAC	CAM
T-0076	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0078	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0079	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0081	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0082	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0106	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0107	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0108	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0109	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0110	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0111	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0112	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0114	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0115	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0116	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0117	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0119	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0124	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0400	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0401	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0402	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0404	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0405	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0409	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0410	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0411	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0412	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0413	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0415	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0417	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0418	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0419	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0420	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0422	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO

Table 103.C, Summary Applicability - [Tanks](#)

Tank No.	NSPS K	NSPS Ka	NSPS Kb	MACT CC Storage	MACT CC Wastewater	NESHAP FF	NSPS QQQ	20.2.37.205 NMAC	20.2.38.109 NMAC	20.2.38.110 NMAC	20.2.38.112 NMAC	20.2.38.113 NMAC	CAM
T-0423	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0431	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0432	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0433	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0434	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0435	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0437	YES	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0438	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0439	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0446	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0447	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0448	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0449	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0450	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0453	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0460	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0465	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0466	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0467	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0468	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0600	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0737	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	NO
T-0802	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	NO
T-0803	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0804	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0807	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0809	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0810	NO	NO	NO	NO	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0814	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0815	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0816	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0830	NO	NO	YES	NO	YES	YES	YES	YES	NO	NO	YES	NO	NO
T-0834	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0835	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO

Table 103.C, Summary Applicability - [Tanks](#)

Tank No.	NSPS K	NSPS Ka	NSPS Kb	MACT CC Storage	MACT CC Wastewater	NESHAP FF	NSPS QQQ	20.2.37.205 NMAC	20.2.38.109 NMAC	20.2.38.110 NMAC	20.2.38.112 NMAC	20.2.38.113 NMAC	CAM
T-0838	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0839	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0840	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0841	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0891	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0892	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1221	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1222	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1223	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1224	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-1225	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-1227	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
BioDiesel	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
Ethanol	NO	NO	YES	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO

Table 103.D, Summary Applicability – Loading

Unit ID	Description	MACT CC	20.2.37.205.C	MACT BBBB	MACT CCCCC	CAM
TL-4	Fuels Truck Loading Rack	YES	NO	NO	NO	NO
TL-7	CBO/LCO Truck Loading Rack	NO	NO	NO	NO	NO
RLO-8	Railcar Loading & Off-Loading Rack	NO	NO	NO	NO	NO

Table 103.E, Summary Applicability – [Heaters and Boilers](#)

Unit ID	Description	NSPS D	NSPS Db	NSPS Dc	NSPS J	NSPS Ja	MACT DDDDD	20.2.33.108 NMAC	20.2.36 NMAC	20.2.37 NMAC	CAM
B-0007	Boiler 7	NO	YES	NO	YES	NO	YES	YES	YES	YES	NO
B-0008	Boiler 8	NO	YES	NO	YES	NO	YES	YES	YES	YES	NO
B-0009	Boiler 9	NO	YES	NO	NO	Yes	YES	YES	YES	YES	NO
H-0009	Unit 13 Naphtha Splitter Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0011	Unit 21 Vacuum Unit Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0018	Unit 06 HDS Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0019	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0020	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0028	Unit 21 Heater H-28	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0030	Unit 06 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0040	Unit 13 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0303	Unit 05 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0312	Unit 10 FCC Feed Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0352	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0353	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0354	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0355	Unit 70 Stabilizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0362	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0363	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO

Table 103.E, Summary Applicability – [Heaters and Boilers](#)

Unit ID	Description	NSPS D	NSPS Db	NSPS Dc	NSPS J	NSPS Ja	MACT DDDDD	20.2.33.108 NMAC	20.2.36 NMAC	20.2.37 NMAC	CAM
H-0364	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0421	Unit 44 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0464	SRU Hot Oil Heater	NO	NO	YES	YES	NO	NO	NO	YES	YES	NO
H-0473	SRU1 and SRU2 Tail Gas Incinerator	NO	NO	NO	YES	NO	NO	NO	YES	YES	NO
H-0600	Unit 09 Depropanizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0601	Unit 33 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-2421	Unit 45 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-8801/ H-8802	Unit 63 Hydrogen Plant Reformer	NO	NO	NO	YES	NO	YES	YES	YES	YES	NO
H-3402	Unit 34 Hydrocracker Reboiler 1	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO
H-3403	Hydrocracker Reactor Charge Heater	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO
H-9851	Unit 64 Hydrogen Plant Reformer	NO	NO	NO	NO	YES	YES	YES	YES	YES	NO
H-2501	Unit 25 ROSE® Unit No.2 Hot Oil Heater	NO	YES	NO	NO	YES	YES	YES	YES	YES	NO
H-3101 (formerly SRU3-HOH)	SRU3 Hot Oil Heater	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO
SRU3-TGI	SRU3 Tail Gas Incinerator	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO

Table 103.F, Summary Applicability – Cooling Towers				
Cooling Tower	Description	MACT Q	MACT CC	CAM
Y-0001	TCC Cooling Tower	YES	YES	NO
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	YES	YES	NO
Y-0008	North Alky Cooling Tower	YES	YES	NO
Y-0011	FCC & NP Cooling Tower	NO	YES	NO
Y-0012	Hydrogen Plants Cooling Tower	NO	YES	NO
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	NO	NO	NO

Table 103.G, Summary Applicability – Wastewater [return]					
Equipment ID	Emission Point ID	MACT CC Wastewater	NESHAP FF	NSPS QQQ	CAM
MAIN API	D-0829/0830	YES	YES	YES	NO
DAF-0896	DAF-0896	YES	YES	NO	NO
DAF-0806	DAF-0806	YES	YES	NO	NO
T-0801		YES	YES	NO	NO
T-0805		YES	YES	NO	NO
T-0829		YES	YES	NO	NO
T-0836		YES	YES	NO	NO
T-0897		YES	YES	NO	NO

Table 103.H, Summary Applicability – FCC-CCR					
Unit ID	NSPS J	NSPS Ja	MACT UUU	20.2.37 NMAC	CAM
FCCREGEN	YES	NO	YES	YES	YES - Satisfied by MACT UUU
CCR	N/A	N/A	YES	N/A	NO

Table 103.I, Summary Applicability – SRU										
Source ID	Emission Point ID	Description	NSPS J	NSPS Ja	MACT UUU	20.2.36.113.A(1)(d) & 20.2.36.113.A(1)(e)	20.2.37.200B	20.2.37.202.A	20.2.39	CAM
SRU1	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU
SRU2	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU
SRU3	SRU3-TGI	SRU3 Tail Gas Incinerator	NO	YES	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU

Unit ID	Description	NSPS A	NSPS J	NSPS Ja	NESHAP A	MACT A	20.2.36.112 NMAC	20.2.36.113b NMAC	20.2.37.201B NMAC
FL-400	North Plant Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-401	South Plant Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-402	FCCU Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-403	Alky Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-404	GOHT Flare	YES	NO	YES	NO	YES	YES	YES	YES
All flares are steam assisted.									
State of New Mexico requires that an exit gas velocity of 65 ft/sec for modeling.									
The heating value of the gas for all flares is < 1000 BTU/scf.									

Table 104.A: Regulated Sources List [[return to A104](#)][[return to A201Engines](#)]

Unit No.	Unit Type	Manufacturer	Model No.	Manufacture Date	Capacity
B-0007	Boiler 7	Todd/John Zink burners	Unknown	10/8/2001 *	215 MMBtu/hr (LHV Basis)
B-0008	Boiler 8	Todd/John Zink burners	Unknown	2003 *	215 MMBtu/hr (LHV Basis)
B-0009	Boiler 9	Babcock & Wilcox	TBD	TBD	220 MMBtu/hr (LHV Basis)
E-8010	WWTP Diesel Pump Engine	John Deere	6090HF485/ RG6090L101484	2/2011	400 hp
E-0600W	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113548	7/2012	376 hp
E-0601M	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113561	7/2012	376 hp
E-0602E	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113574	7/2012	376 hp
E-0603	Fire Water Pump Engine	Clarke Diesel (John Deere)	JU6H-UFADX8/ PE6068L228486	2012	305 hp
E-0901	Fire Water Pump Engine	Clarke Diesel (John Deere)	JX6H-UF30* RG6125A016118	10/2007	430 hp
G-0100	UPS backup generator	Deutz	F4L912GEN/ Engine Family WDZXL05.7010	1998	52 hp
G-0101	UPS backup generator	Deutz	F4L 1011 F/ EI97-68CA00-000-0053	1999	54 hp
V-0543	Portable Air Compressor	Cummings, Inc.	QSC, 73104611	8/30/2010	260 hp
V-0545	Portable Air Compressor	Cummings, Inc.	QSC, 73142120	4/8/2011	260 hp
V-0546	Portable Air Compressor	Cummings, Inc.	QSC, 46917364	11/19/2008	240 hp
H-0009	Unit 13 Naphtha Splitter Reboiler	Zeeco burners	GSFW-12 burners	Unknown	44 MMBtu/hr (LHV Basis)
H-0011	Unit 21 Vacuum Flasher Heater	Unknown	Unknown	Unknown	38 MMBtu/hr (LHV Basis)
H-0018	Naphtha HDS Reboiler	Zeeco burners	GSFW-8 burners	Unknown	32 MMBtu/hr (LHV Basis)
H-0019	South Crude Charge Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2005	54 MMBtu/hr (LHV Basis)
H-0020	South Crude Charge Heater	Callidus Technologies, LLC burners	CUBL-12W burners	New burners in 2005	78 MMBtu/hr (LHV Basis)
H-0028	Unit 21 Heater H-28 (previously H-10)	John Zink burners	PSFG-12 burners	Unknown	12.3 MMBtu/hr (LHV Basis)
H-0030	Unit 06 Charge Heater	John Zink burners	PSFG-16R burners	2000*	42 MMBtu/hr (LHV Basis)
H-0040	Unit 13 Charge Heater	John Zink burners	PSFG-16 burners	1990*	42 MMBtu/hr (LHV Basis)
H-0303	Unit 05 Charge Heater	John Zink burners	HEVD-Q-18 burners	1982*	11 MMBtu/hr (LHV Basis)
H-0312	Unit 10 FCC Feed Heater	John Zink burners	VYD-18 burners	1990*	35 MMBtu/hr (LHV Basis)
H-0352	Unit 70 CCR Heater (previously 70-H1)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	63 MMBtu/hr (LHV Basis)
H-0353	Unit 70 CCR Heater (previously 70-H2)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	81 MMBtu/hr (LHV Basis)
H-0354	Unit 70 CCR Heater (previously 70-H3)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	56 MMBtu/hr (LHV Basis)
H-0355	Unit 70 Stabilizer Reboiler Heater H-355 (previously 70H-4)	John Zink burners	Unknown	1991*	24 MMBtu/hr (LHV Basis)
H-0362	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2006	40 MMBtu/hr (LHV Basis)

Table 104.A: Regulated Sources List [[return to A104](#)][[return to A201Engines](#)]

Unit No.	Unit Type	Manufacturer	Model No.	Manufacture Date	Capacity
H-0363	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2006	50 MMBtu/hr (LHV Basis)
H-0364	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-6W burners	New burners in 2006	35 MMBtu/hr (LHV Basis)
H-0421	Unit 44 Charge Heater (previously H-21)	John Zink burners	LNC-PC-18 burners	1981*	27 MMBtu/hr (LHV Basis)
H-0464	SRU Hot Oil Heater	Callidus Technologies, LLC burners	LE-CSG-4W burners	2003*	9.6 MMBtu/hr (LHV Basis)
H-0600	Depropanizer Reboiler Heater (previously 3F-1)	Callidus Technologies, LLC burners	CUBL-12W burners	1991*, New burners in 2009	84 MMBtu/hr (LHV Basis)
H-0601	Unit 33 Charge Heater	Callidus Technologies, LLC burners	CUB-8P-CW burners	New burners in 2003	78 MMBtu/hr (LHV Basis)
H-2421	Unit 45 Charge Heater	Zeeco, Inc. burners	GLSF-14 Round Flame "Free Jet" burners	2006*	27 MMBtu/hr (LHV Basis)
H-8801	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-8802	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-2501	ROSE2 Hot Oil Heater	John Zink Company, LLC burners	COOLstar-18 burners	2009*	120 MMBtu/hr (LHV Basis)
H-3403	Hydrocracker Reactor Charge Heater	Callidus Technologies, LLC burners	CUBL-10W burners	TBD	32.0 MMBtu/hr (LHV Basis)
H-3402	Hydrocracker Fractionator Reboiler 1	Callidus Technologies, LLC burners	LE-CSG-12W burners	2009*	52 MMBtu/hr (LHV Basis)
H-9851	Unit 64 Hydrogen Plant Reformer	Callidus Technologies, LLC burners	CUBL-3WDF burners	2009*	337 MMBtu/hr (LHV Basis)
H-3101	SRU3 Hot Oil Heater	Callidus Technologies, LLC burner	Unknown	05/11/2009 *	9.6 MMBtu/hr (LHV Basis)
H-0473 (SRU1/SRU2 TGI)	SRU1 and SRU2 Tail Gas Incinerator	Unknown	Unknown	Unknown	NA
SRU3-TGI	SRU3 Tail Gas Incinerator	Callidus Technologies, LLC burners	Unknown	05/11/2009 *	NA
FCC Regenerator	FCC Regenerator Scrubber	Unknown	Unknown	Unknown	NA
CCRr	CCR Reformer	Unknown	Unknown	Unknown	NA
FL-0400, North Plant Flare	North Plant Flare	Unknown	Unknown	Unknown	NA
FL-0401, South Plant Flare	South Plant Flare	Unknown	Unknown	Unknown	NA
FL-0402, FCC Flare	FCC Flare	Unknown	Unknown	Unknown	NA
FL-0403, Alky Flare	Alky Flare	Unknown	Unknown	Unknown	NA
FL-0404, GOHT Flare	GOHT Flare	Unknown	Unknown	Unknown	NA
Y-0001	TCC Cooling Tower	Unknown	Unknown	Unknown	5,000 gpm, 0.003% drift
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	Unknown	Unknown	Unknown	5,000 gpm, 0.003% drift
Y-0008	North Alky Cooling Tower	Unknown	Unknown	Unknown	12,500 gpm, 0.003% drift
Y-0011	FCC & NP Cooling Tower	Unknown	Unknown	Unknown	30,000 gpm, 0.001% drift
Y-0012	Hydrogen Plants Cooling Tower	Unknown	Unknown	Unknown	10,000 gpm, 0.001% drift

Table 104.A: Regulated Sources List [[return to A104](#)][[return to A201Engines](#)]

Unit No.	Unit Type	Manufacturer	Model No.	Manufacture Date	Capacity
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	Unknown	Unknown	Unknown	3,000 gpm, 0.003% drift
MAIN API	Above Ground API Oil-Water Separator	Unknown	Unknown	Unknown	1,200 gpm
T-0896	DAF Unit T-0896	Unknown	Unknown	Unknown	1,200 gpm
T-0801	Enhanced Biodegradation Tank T-0801	Unknown	Unknown	Unknown	1,200 gpm
T-0836	Enhanced Biodegradation Tank T-0836	Unknown	Unknown	Unknown	1,200 gpm
T-0829	Equalization Tank T-0829	Not yet installed	Not yet installed	Not yet installed	1,200 gpm
T-0806	DAF Unit T-0806	Not yet installed	Not yet installed	Not yet installed	Not yet installed
Fugitives (see Table 103.B)	Equipment component leaks (pump seals, valves, flanges, etc.)	NA	NA	Varies	NA
Loading (see Table 103.D)	Bulk Loading/Unloading Racks	NA	NA	Varies	Varies
Tanks (see Table 103.C)	Fixed Roof, External Floating Roof & Internal Floating Roof Tanks	NA	NA	Varies	Varies
* Installation date					

Note: Serial numbers are not used since most equipment consists of field erected parts that are assembled on site and may have several “serial numbers” for various components. Heaters are the best example because each of the burners has a serial number but the heater as a whole does not have a single serial number. The heater as a whole is typically identified by our equipment number. There may also be a “project number” or “job number” from the manufacturer, but that can change if a heater is revamped at a later date such as when they modify the convection section to improve energy efficiency.

	Table 106.A Allowable Emission Limits [return A106]												
		SO ₂		NO _x			CO			PM		VOC	
Source ID	^{3,5} MM Btu/hr	⁵ (lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu LHV)	(lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)
B-0007	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7		1.8	7.8	1.3	5.6
B-0008	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7		1.8	7.8	1.3	5.6
B-0009	220	2.6	11.4	4.4	19.3	0.02 BACT	8.1	35.7		1.6	7.2	0.9	3.9
H-0009	44	1.6	2.6	4.0	17.3	0.09	4.0	17.5		0.4	1.6	0.3	1.2
H-0011	38	1.4	2.3	9.5	31.6	-	3.5	15.2		0.3	1.4	0.2	1.0
H-0018	32	1.2	1.9	3.5	15.2	-	2.9	12.8		0.3	1.2	0.2	0.8
H-0019	54	2.0	3.2	2.9	12.5	0.0527	4.9	21.5		0.4	2.0	0.3	1.4
H-0020	78	2.8	4.6	4.2	18.3	0.0535	7.1	31.1		0.6	2.8	0.5	2.0
H-0028	12.3	0.4	0.7	2.2	9.5	-	1.1	4.9		0.1	0.4	0.1	0.3
H-0030	42	1.5	2.5	3.2	14.0	-	3.8	16.8		0.4	1.5	0.3	1.1
H-0040	42	1.5	2.5	3.8	16.6	-	3.8	16.8		0.4	1.5	0.3	1.1
H-0352/0353/0354	63/81/56	7.3	11.8	9.0	39.4	0.045	18.2	79.7		1.7	7.2	1.2	5.2
H-0355	24	0.9	1.4	2.2	9.5	-	2.2	9.6		0.2	0.9	0.1	0.6
H-0303	11	0.4	0.7	1.2	5.2	-	1.0	4.4		0.1	0.4	0.1	0.3
H-0312	35	1.3	2.1	4.6	20.2	-	3.2	14.0		0.3	1.3	0.2	0.9
H-0362/0363/0364	40/50/35	4.6	7.4	6.9	30.1	0.055	11.4	49.8		1.0	4.5	0.7	3.3
H-0421	27	1.0	1.6	2.4	10.6	0.09	2.5	10.8		0.2	1.0	0.2	0.7
H-0464	9.6	0.4	0.6	0.5	2.3	-	0.9	3.8		0.1	0.4	0.1	0.3
H-0600	84	3.1	5.0	4.7	20.3	0.05	7.6	33.5		0.7	3.03	0.5	2.2
H-0601	78	2.8	4.6	3.5	15.4	0.045	7.1	31.1		0.6	2.8	0.5	2.0
H-2421	27	1.0	1.6	1.2	5.3	0.045	2.5	10.8		0.2	1.0	0.2	0.7
H-8801/8802	60/60	0.2	0.8	4.2	18.4	0.035	10.9	47.8		1.0	4.3	0.7	3.1
H-2501	120	4.4	7.1	3.6	15.8	0.03	7.2	31.5	0.09 BACT	1.0	4.3	0.7	3.1
H-3402	52	1.9	3.1	1.6	6.8	0.03	4.7	20.7	0.09 BACT	0.4	1.9	0.3	1.4
H-3403	32.0	1.2	1.9	1.0	4.2	0.03	2.9	12.8		0.3	1.2	0.2	0.8
H-9851	337	0.5	2.2	4.2	18.5	0.0125 BACT	20.2	88.6	0.06 BACT	2.8	12.2	2.0	8.8
H-3101	9.6	0.4	0.6	0.3	1.3	0.03	0.9	3.8	0.09 BACT	0.1	0.4	0.1	0.3
H-0473 (SRU1/SRU2 TGI)	NA	30.0	81.8	6.5	28.5	N/A	27.7	121.2		0.5	2.2	0.1	0.6
SRU3-TGI	NA	30.0	81.8	6.5	28.5	N/A	15.0	65.7		0.5	2.2	0.1	0.6

Table 106.A Allowable Emission Limits [return A106]													
		SO ₂		NO _x			CO			PM		VOC	
Source ID	^{3,5} MM Btu/hr	⁵ (lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu LHV)	(lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)
FCC Regenerator	NA	27.9	61.0	35.0	101.9	N/A	121.9	106.8		25.0	109.5	-	-
FL-0400, North Plant Flare	NA	0.2	0.5	0.2	0.8	N/A	1.0	4.3		0.0	0.0	0.2	0.7
FL-0401, South Plant Flare	NA	0.1	0.1	<0.1	0.2	N/A	0.2	1.1		0.0	0.0	<0.1	0.2
FL-0402, FCC Flare	NA	0.1	0.1	<0.1	0.2	N/A	0.2	1.1		0.0	0.0	<0.1	0.2
FL-0403, Alky Flare	NA	<0.1	<0.1	<0.1	<0.1	N/A	<0.1	0.2		0.0	0.0	<0.1	<0.1
FL-0404, GOHT Flare	NA	2.4	10.5	4.1	18.1	N/A	13.6	59.6		0.0	0.0	2.3	10.2
Subtotal			345.4		668.8			1156.2			196.0		70.2
Tanks, Table 106.E													322.4
Fugitives, Table 106.F													994.6
Misc Sources, Table 106.G													16.6
Cooling Towers, Table 106.H								2.5			9.0		56.2
Oil/Water Separators, Table 106.I												5.3	9.5
⁶ SSM, Table 107			27.4		31.6			97.6			0.4		46.2
TOTAL ¹	NA		372.8		700.4	N/A		1256.3			205.3		1515.7

¹ Totals are for information and are not enforceable conditions.

² Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO₂

³ lbs-NO_x/MMBtu of heat input, calculated as a 3-hour average, when firing natural gas at 3% stack oxygen at full design load without air preheat.

⁴ All Particulate Matter emitted is assumed to be of aerodynamic diameter 10 microns or less.

⁵ Hourly emission limits and lb/MM Btu limits are based on a hourly rolling 3-hour average.

⁶ Maximum allowable emissions during maintenance, startup, or shutdown (SSM) and malfunction activities.

“-“ indicates that in accordance with the application, emissions of this pollutant are not expected.

“- -“ indicates that the emissions are less than 1.0 pph or 1.0 tpy and emission limits are not required for this permit, unless it's for a control device.

Unit 9851, the SCR exhaust has Ammonia Slip limit of 7 ppmv on a wet basis and 6.1 tpy (BACT).

INTERNAL FLOATING ROOF STORAGE TANKS			
TABLE 106.B(1) VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC)			
Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0056	Naphthas	High Vapor Pressure ²	11.0
T-0106	Distillates	High Vapor Pressure ²	11.0
T-0107	Gasolines	High Vapor Pressure ²	11.0
T-0108	Gasolines	High Vapor Pressure ²	11.0
T-0109	Gasolines	High Vapor Pressure ²	11.0
T-0111	Naphthas	High Vapor Pressure ²	11.0
T-0112	Naphthas	High Vapor Pressure ²	11.0
T-0011	Gasolines	High Vapor Pressure ²	11.0
T-0124	Gasolines	High Vapor Pressure ²	11.0
T-0012	Gasolines	High Vapor Pressure ²	11.0
T-0413	Distillates	High Vapor Pressure ²	11.0
T-0415	Gasolines	High Vapor Pressure ²	11.0
T-0417	Gasolines	High Vapor Pressure ²	11.0
T-0439	Crude Oil	High Vapor Pressure ²	11.0

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

EXTERNAL FLOATING ROOF STORAGE TANKS**TABLE 106.B(2) VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC) -**

Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0057	Naphthas	High Vapor Pressure ²	11.0
T-0078	Isomerates	High Vapor Pressure ²	11.0
T-0079	Isomerates	High Vapor Pressure ²	11.0
T-0117	Gasolines	High Vapor Pressure ²	11.0
T-0401	Gasolines	High Vapor Pressure ²	11.0
T-0402	Gasolines	High Vapor Pressure ²	11.0
T-0411	Gasolines	High Vapor Pressure ²	11.0
T-0412	Gasolines	High Vapor Pressure ²	11.0
T-0435	Crude Oil	High Vapor Pressure ²	11.0
T-0437	Crude Oil	High Vapor Pressure ²	11.0
T-0450	Naphthas	High Vapor Pressure ²	11.0
T-0802	Sour Water	High Vapor Pressure ²	11.0
T-0830	Slop	High Vapor Pressure ²	11.0
T-0834	Distillates	Moderate Vapor Pressure ³	1.5
T-0835	Distillates	High Vapor Pressure ²	11.0
T-1225	Naphthas	High Vapor Pressure ²	11.0
T-0737	Sour Water	High Vapor Pressure ²	11.0
TK-NEWETHANOL	Ethanol	High Vapor Pressure ²	2.32

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomerate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

FIXED ROOF STORAGE TANKS			
TABLE 106.C VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)			
Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0013	Slop	Moderate Vapor Pressure ³	1.5
T-0040	Distillates	Low Vapor Pressure ⁴	0.5
T-0041	Distillates	Low Vapor Pressure ⁴	0.5
T-0110	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0400	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0404	Carbon Black Oil (CBO)	Low Vapor Pressure ⁴	0.5
T-0405	CBO	Low Vapor Pressure ⁴	0.5
T-0409	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0410	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0418	Distillates	Low Vapor Pressure ⁴	0.5
T-0419	Distillates	Low Vapor Pressure ⁴	0.5
T-0420	CBO	Low Vapor Pressure ⁴	0.5
T-0422	Distillates	Low Vapor Pressure ⁴	0.5
T-0423	Distillates	Low Vapor Pressure ⁴	0.5
T-0431	Distillates	Low Vapor Pressure ⁴	0.5
T-0432	Distillates	Low Vapor Pressure ⁴	0.5
T-0049	Slop	Moderate Vapor Pressure ³	1.5
T-0055	Distillates	Low Vapor Pressure ⁴	0.5
T-0058	Distillates	Low Vapor Pressure ⁴	0.5
T-0059	CBO	Low Vapor Pressure ⁴	0.5
T-0061	Distillates	Low Vapor Pressure ⁴	0.5
T-0063	CBO	Low Vapor Pressure ⁴	0.5
T-0065	CBO	Low Vapor Pressure ⁴	0.5
T-0075	CBO	Low Vapor Pressure ⁴	0.5
T-0433	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0434	Distillates	Low Vapor Pressure ⁴	0.5
T-0438	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0810	Slop	Moderate Vapor Pressure ³	1.5
T-0814	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0815	Distillates	Low Vapor Pressure ⁴	0.5
T-0838	Distillates	Low Vapor Pressure ⁴	0.5
T-1227	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0081	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5

FIXED ROOF STORAGE TANKS			
TABLE 106.C VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)			
Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0082	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
RW-4	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-5	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-6	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
TK-NEWBIODIES EL	Biodiesel	Low Vapor Pressure ⁴	0.022

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

⁴ Low Vapor Pressure Liquids include: Diesel (raw or finished), Kerosene (raw or finished), JP-8, CBO, LCO, Slurry, Heavy Slop, Cutback Asphalt, Cutter, VGO, AGO, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure less than 0.5 psia under actual storage conditions.

TABLE 106.D – STORAGE TANK THROUGHPUT AND TEMPERATURE LIMITS		
Material	Throughput (bbl/yr)	Maximum Storage Temperature (°F)
Asphalt/Pitch	30,872,000	510
Carbon Black Oil (CBO)	1,291,610	250
Crude Oil	76,212,000	Ambient
Distillate	55,076,590	310
Gas Oil	25,059,500	310
Gasoline (includes isomerates)	57,910,908	Ambient
Naphtha	39,028,084	Ambient
Slop	1,330,000	Ambient
Sour Water	45,051	Ambient
BioDiesel	949,000	Ambient
Methanol	142,350	Ambient

TABLE 106.E– STORAGE TANK VOC AND H₂S EMISSION LIMITS¹ (return to A203)		
Tank Type	VOC Emission Rate (tpy)	H₂S Emission Rate (tpy)
Fixed-Roof	238.6	0.0
Floating-Roof	83.8	1.47
Total Tanks	322.4	1.47

¹ The permittee shall demonstrate compliance with the above throughputs and emission limits through the annual emissions inventory process. Specific tank data (e.g. temperature & throughputs) shall be monitored and recorded weekly by the permittee.

Table 106.F, ¹EMISSIONS LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC) FUGITIVE EMISSIONS FROM EQUIPMENT LEAKS

Process Unit ID Number	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
FUG-02-SP CRUDE	South Division Crude Unit	10.2	44.6
FUG-10-FCC	FCC w/CVS	10.8	47.2
FUG-20-ISOM	Powerformer/Penex Unit w/CVS	5.9	25.7
FUG-21-SP VACUUM	Flasher/Vacuum Unit	3.2	13.9
FUG-05-KERO	Kerosene HDS Unit	5.2	22.7
FUG-06-NHDU	JP8 Hydrodesulfurization	7.1	30.9
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	3.5	15.3
FUG-35-SAT GAS	Saturates Gas Plant	18.3	80.0
FUG-29-BLENDER/TK FARM	Light Oil Tankage	6.8	29.6
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	3.5	15.3
FUG-FUEL GAS	Fuel Gas Distribution System	4.2	18.2
FUG-LPG	LPG Storage System	21.6	94.4
FUG-41-PBC	PBC Unit	3.4	14.7
FUG-70-CCR	CCR Reformer (w/in battery limits)	23.4	102.3
FUG-13-NHDU	Naphtha HDS Unit	10.2	44.6
FUG-43-S ALKY	South Alky Unit (W-76)	1.7	7.5
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	12.0	52.5
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	9.3	40.6
FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	2.6	11.2
FUG-07-N AMINE	Amine Unit-Treating/Regen.	6.3	27.5
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/CVS	2.4	10.4
FUG-07-SWS1	Sour Water Stripper	1.6	7.0
FUG-80-WWTP CVS	Oil/Water Separator	1.3	5.5
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/CVS	12.9	56.4
FUG-08-TRUCK RK	Loading Racks	2.8	12.1
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	0.7	2.9
FUG-73-SP UTIL	Utilities	16.7	73.3
FUG-63-H2 PLANT-1	Hydrogen Plant	2.6	11.2
FUG-31-SRU3/TGTU3/TGI3	SRU3 Unit	0.7	3.1
FUG-34-HYDROCRACKER	WX Hydrocracker	6.2	27.2
FUG-25-ROSE-2	ROSE Unit	8.0	35.1
FUG-64-H2 PLANT-2	Hydrogen Plant	2.6	11.2
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks	0.1	0.5
Subtotal Facility VOC CAP		227.8	994.6

¹ Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available Significant permit revision in accordance with 20.2.72 NMAC. The facility wide fugitive VOC emission limit shown above and in Table 106.A of this permit.

MISCELLANEOUS SOURCES Table 106.G EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)						
Loading Rack	Loading Rack Description	Material Loaded	Hourly Throughput	Annual Throughput	VOC Emissions	
			bbl/hr	bbl/yr	lb/hr	ton/yr
TL-4 ^a	Fuels Truck Loading Rack	Gasoline	1214	1,600,696	4.25	2.80
		Diesel	107100	3,650,000	1.72	1.72
		Jet Fuel	35700	1,021,718	0.75	0.34
		TOTAL VOC			6.73	4.86
TL-7	CBO/LCO Truck Loading Rack	Carbon Black Oil	30000	500,808	6.30	1.57
		Light Cycle Oil	38100	20,119	3.55	0.06
		TOTAL VOC			6.30	1.63
RLO-8	Railcar Loading & Off-Loading Rack	Carbon Black Oil	30000	365,000	6.30	1.15
		Diesel	20000	1,144,000	0.32	0.54
		Jet Fuel	20000	1,144,000	0.42	0.38
		Asphalt	30000	2,628,000	0.01	0.03
		TOTAL VOC			6.30	2.09
FUG-ODOR	Odor Controlling Atomizer		1250 ml/hr	10950 liters	0.46	2.0

Note:1. Calculation method and factors per AP-42, Section 5.2, dated June 2008.

- a Controlled emission rate. The previous controlled rate was set by the terms of the consent agreement between Navajo Refining Co. and the Department executed January 28, 1994. The agreement required that the incinerator have a minimum 90% destruction efficiency for gasoline loading and a minimum 80% destruction efficiency for diesel fuel loading or Jet A fuel loading. This was achieved by a vapor combustor. This device has since been replaced with a carbon adsorption system compliant with MACT Subpart R, as subject per MACT Subpart CC. Emission limits changed in 195-M-17 to correspond to Title V permit values.

COOLING TOWERS						
Table 106.H EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS and PM						
Source ID	VOC lb/hr	VOC tons/yr	PM (lb/hr)	PM (tons/yr)	CO (lb/hr)	CO (tons/yr)
Y-0001	1.8	7.9	0.3	1.2		
Y-0002	1.8	7.9	0.3	1.2		
Y-0008 ^a	6.5	28.3	0.7	2.9	0.58	2.54
Y-0011	1.3	5.5	0.5	2.3		
Y-0012	0.4	1.8	0.2	0.8		
CT TT-0006	1.1	4.7	0.2	0.7		
Subtotal informational only) (for purposes	12.8	56.1	2.1	9.1		

^a Y-0008 cooling tower provides 100% control of any NH₃ emissions from V-H2 and V-H2-2. Unit 64, Hydrogen Plant has de-aerator line that has dissolved CO that is connected to the cooling tower.

API OIL/WATER SEPARATORS				
Table 106.I EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)				
Equipment ID	Emission Point ID	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
MAIN API	D-0829/0830	Above Ground API Oil-Water Separators and enclosed drain system.	<0.1	<0.1
T-0896	DAF-0896	DAF Unit T-0896	<0.1	<0.1
T-0801	T-0801	Enhanced Biodegradation Tank T-0801	<0.1	<0.1
T-0836	T-0836	Enhanced Biodegradation Tank T-0836	0.1	0.5
T-0829	T-0829	Equalization Tank T-0829	5.1	8.9
T-0806	DAF-0806	DAF Unit T-0806	<0.1	<0.1
		Subtotal (for informational purposes only)	5.3	9.4

Table 107.A MAINTENANCE STARTUP AND SHUTDOWN EMISSION LIMITS [return to [A107](#)]

Unit	Description of Emissions	NOx		CO		VOC		TSP/PM ₁₀ /PM _{2.5}		SO ₂		H ₂ S	
		pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
SSM H-9851	Emissions during SCR downtime ¹	10.1	1.2	20.2	2.4	2.0	0.2	2.8	0.3	0.5	0.1	--	--
SSM T-0737	Emissions from roof landing	--	--	--	--	33.0	0.5	--	--	--	--	--	--
SSM Misc 1	Emissions from catalyst handling	--	--	--	--	--	--	1.5	<0.1	--	--	--	--
SSM SRU3-TGI	Emissions from SRU3 startup and shutdown	6.5	<0.1	15.0	0.1	0.1	<0.1	--	--	159.0	0.4	6.5	<0.1
SSM T-0078	Emissions from roof landing and tank refilling	--	--	--	--	177.0	2.7	--	--	--	--		
SSM T-0079	Emissions from roof landing and tank refilling	--	--	--	--	306.0	4.6	--	--	--	--		
SSM T-1225	Emissions from roof landing					187.0	2.8						
SSM FL-HEP-PORT	Temporary, portable flare for natural gas pipeline maintenance	173.4	0.1	943.5	0.5	160.7	0.1	--	--	1.7	<0.1	0.02	<0.1
SSM SRU2-TGI (H-0473)	Emissions from SRU2 startup and shutdown	6.5	0.1	27.7	0.2	0.2	0.1	--	--	159.0	0.4	6.6	0.1
SSM Flare Cap	Emissions from venting SSM activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404.	162.9	18.3	1243.0	77.0	211.6	13.2	--	--	1133.4	14.9	0.4	0.1
Flares Malf Cap	Upset and Malfunction Emissions	--	10.0	--	10.0	--	10.0	--	--	--	10.0	--	--
SSM Misc 2	Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as heat exchanger repair.	17.0	1.9	127.1	7.8	21.2	1.4	--	--	129.3	1.6	0.7	0.1--
SSM Tanks Misc	Storage Tanks	--	--	--	--	112.0	10.6	--	--	--	--	0.1	0.1
Subtotal SSM/M1			31.6		98.0		46.2		0.4		27.4		0.4

¹ During startup, shutdown, schedule maintenance or malfunction of the SCR control system, BACT for H-9851 shall be ultra-low NOx burners emitting no more than 0.03 lb per MMBtu (LHV) on a hourly rolling 3-hour average basis at 3% excess oxygen. Pound per hour and tons per year limits are based on the lb/MMBtu limits and were used to demonstrate compliance with the lb/MMBtu limits and the Ambient Air Quality Standards (AAQS).

7-16-19



Received

JUL 18 2019

Air Quality Bureau

July 16, 2019

CFR 63 Subpart CC JUL 2019

Enforcement Manager
 New Mexico Environment Department
 Air Quality Bureau
 525 Camino de Los Marquez, Suite 1
 Santa Fe, NM 87505-1816

Certified Mail/Return Receipt
 7018 0360 0001 7923 5866

**Re: Notice of Seal Inspection and Refill
 Tanks 0106, 0107, 0451, and 0737
 HollyFrontier Navajo Refining LLC
 Artesia, NM Refinery
 Agency Interest No. 198**

Dear Enforcement Manager:

Pursuant to 40 CFR 63.120(a)(3), as applicable to Group 1 storage vessels subject to 40 CFR 63.646 (MACT Subpart CC storage vessel provisions), Navajo is providing this advance notice of seal inspection to be made by Navajo's inspection department. These tanks comply with MACT Subpart CC, and only T-0737 is subject to NSPS Subpart K, Ka or Kb.

During the scheduled seal inspections of tanks T-0106, T-0107, T-0451, and T-0737, problems were identified with the floating roofs. These tanks will be emptied and degassed to perform repairs. Once the tank repairs are completed, an inspection will be performed of the floating roof, primary seal, secondary seal, gaskets, slotted membranes, and sleeve seals. These tanks will be refilled upon completion of the inspection and repairs. This notification also fulfills the requirements of 40 CFR 63.120(a)(6).

Tank	Roof Type	MACT CC Group	NSPS	Primary Seal Inspection?	Secondary Seal Inspection?	Refill & Inspection scheduled On or After
T-0106	IFR	1	None	Yes	Yes	8/17/2019
T-0107	IFR	1	None	Yes	Yes	8/17/2019
T-0451	IFR	2	None	No	Yes	8/17/2019
T-0737	EFR	1	Kb	Yes	Yes	8/17/2019

The tanks inspection may require fresh air packs for safe access. If you plan to observe the seal gap measurements for such tanks, please bring appropriate equipment and certified personnel.

Please contact me at (575) 746-5487 or Ray Smalts at (575) 746-5490 if you have any additional questions.

HollyFrontier Navajo Refining LLC
 501 East Main • Artesia, NM 88210
 (575) 748-3311 • <http://www.hollyfrontier.com>

Notice of Seal Inspections & Refill

July 16, 2019

Page 2

Sincerely,



Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC
P.O. Box 159
Artesia, New Mexico 88211-0159
Phone: (575) 746-5487
E-mail: Scott.Denton@hollyfrontier.com

Electronic cc: Navajo: P. Miller, B. Romine, A. Karr, O. Dominguez, K. Newton, W. Swoyer, D. Hammond, R. Smalts
Environmental File: 2.6.4 Tanks/Notifications/Artesia/2019/2019-07-16/2019-07-16 Artesia Tank Seal Inspection and Refill Notification.pdf



POSTED

12.12.18

New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375



Version 05.02.13

NMED USE ONLY	
TEMPO	

REPORTING SUBMITTAL FORM

NMED USE ONLY	
Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

CFR 63 Subpart CC Dec 18

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION

A. ® Company Name: HollyFrontier Navajo Refining LLC			D. ® Facility Name: HollyFrontier Navajo Refining LLC		
B.1 ® Company Address: PO Box 159			E.1 ® Facility Address: 501 E. Main St.		
B.2 ® City: Artesia	B.3 ® State: NM	B.4 ® Zip: 8 8 2 1 1 - 0 1 5 9	E.2 ® City: Artesia	E.3 ® State: NM	E.4 ® Zip: 88210
C.1 ® Company Environmental Contact: Scott Denton		C.2 ® Title: Environmental Manager	F.1 ® Facility Contact: Scott Denton		F.2 ® Title: Environmental Manager
C.3 ® Phone Number: 575-746-5487		C.4 ® Fax Number: 575-746-5451	F.3 ® Phone Number: 575-746-5487		F.4 ® Fax Number: 575-746-5451
C.5 ® Email Address: Scott.Denton@hollyfrontier.com			F.5 ® Email Address: Scott.Denton@hollyfrontier.com		
G. Responsible Official: (Title V only): Robert K. O'Brien		H. Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	I. Phone Number: 575-748-3311		J. Fax Number: 575-746-5451
K. ® AI Number: 198	L. Title V Permit Number: P051-R2	M. Title V Permit Issue Date: 05/06/2015	N. NSR Permit Number: PSD-NM-0195-M37R2		O. NSR Permit Issue Date: 11/14/2018
P. Reporting Period: From: N/A To: N/A					

SECTION II - TYPE OF SUBMITTAL (check one that applies)

A. ☐	Title V Annual Compliance Certification	Permit Condition(s):	Description:
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s): Description:
D. ☒	MACT Requirement (40CFR63)	Regulation: MACT Subpart CC	Section(s): 40 CFR 63.120(b)(9) Description: MACT Subpart CC Tank Seal Inspection Advance Notification
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s): Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ : or NOI No. ☐ :	Condition(s): Description:
G. ☐	Requirement of an Enforcement Action	NOV No. ☐ : or SFO No. ☐ : or CD No. ☐ : or Other ☐ :	Section(s): Description:

SECTION IV - CERTIFICATION

After reasonable inquiry, I <u>Scott M. Denton</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: 	® Title: Environmental Manager, HollyFrontier Navajo Refining LLC	® Date: 12/12/2018	® Responsible Official for Title V? ☒ Yes ☐ No

Reviewed By: _____

Date Reviewed: _____



RECEIVED
DEC 14 2018
HOLLYFRONTIER

December 12, 2018

Enforcement Manager
New Mexico Environment Department
Air Quality Bureau
525 Camino de Los Marquez, Suite 1
Santa Fe, NM 87505-1816

Certified Mail/Return Receipt
7018 0360 0001 7923 5613

Re: Notice of Seal Inspections
EFR Tanks 57, 79, 117, 401, 402, 411, 412, 435, 437, 450, 737, 802, 821, 830 and 1225
IFR Tanks 11, 12, 56, 106, 107, 108, 109, 111, 112, 124, 415, 417, 439, 451 and 452
HollyFrontier Navajo Refining LLC
Artesia, NM Refinery
Agency Interest No. 198

Dear Enforcement Manager:

Pursuant to 40 CFR 63.120(b)(9), as applicable to Group 1 storage vessels subject to 40 CFR 63.660 (MACT Subpart CC storage vessel provisions), I am providing this advance notice of seal gap measurements to be made by Navajo's inspection department. For external floating roof (EFR) tanks subject to either NSPS Subpart Ka or Kb, this advance notice also fulfills the requirements of 40 CFR 60.113a(a)(1)(iv) or 40 CFR 60.113b(b)(5), respectively.

Seals will be inspected on the following storage vessels as described in the table and text below. The inspection results will be provided to you with the applicable semi-annual periodic report required under 40 CFR 63.655(g).

Tank	Roof Type	MACT CC Group	NSPS	Planned Primary Seal Inspection?	Inspection scheduled for week beginning	Planned Secondary Seal Inspection?	Inspection scheduled for week beginning
T-0011	IFR	1	None	Measure for gaps	01/7/2019	Visual	08/05/2019
T-0012	IFR	1	None	Not at this time	-----	Visual	11/04/2019
T-0056	IFR	1	None	Not at this time	-----	Visual	02/18/2019
T-0057	EFR	1	Ka	Not at this time	-----	Measure for gaps	01/28/2019
T-0079	EFR	1	Kb	Measure for gaps	03/30/2019	Measure for gaps	02/04/2019
T-0106	IFR	1	None	Not at this time	-----	Visual	07/22/2019
T-0107	IFR	1	None	Measure for gaps	07/22/2019	Visual	07/22/2019
T-0108	IFR	1	None	Not at this time	-----	Visual	05/27/2019
T-0109	IFR	1	None	Not at this time	-----	Visual	02/18/2019
T-0111	IFR	1	None	Not at this time	-----	Visual	02/25/2019
T-0112	IFR	1	None	Not at this time	-----	Visual	08/12/2019
T-0117	EFR	1	None	Not at this time	-----	Measure for gaps	02/11/2019
T-0124	IFR	1	Ka	Not at this time	-----	Visual	04/22/2019
T-0401	EFR	1	Ka	Not at this time	-----	Measure for gaps	08/12/2019
T-0402	EFR	1	Ka	Not at this time	-----	Measure for gaps	03/11/2019
T-0411	EFR	1	None	Not at this time	-----	Measure for gaps	09/16/2019

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
(575) 748-3311 • <http://www.hollyfrontier.com>

Notice of Seal Inspections

December 12, 2018

Page 2

T-0412	EFR	1	None	Not at this time	-----	Measure for gaps	06/17/2019
T-0415	IFR	1	None	Not at this time	-----	Visual	02/25/2019
T-0417	IFR	1	None	Not at this time	-----	Visual	02/04/2019
T-0435	EFR	1	Kb	Not at this time	-----	Measure for gaps	09/16/2019
T-0437	EFR	1	K	Not at this time	-----	Measure for gaps	02/11/2019
T-0439	IFR	1	Ka	Not at this time	-----	Visual	10/07/2019
T-0450	EFR	1	Kb	Not at this time	-----	Measure for gaps	05/06/2019
T-0451	IFR	2	None	Not at this time	-----	Visual	04/15/2019
T-0452	IFR	2	Kb	Not at this time	-----	Visual	08/05/2019
T-0737	EFR	1	Kb	Measure for gaps	03/25/2019	Measure for gaps	01/28/2019
T-0802	EFR	1	Kb	Measure for gaps	07/15/2019	Measure for gaps	02/11/2019
T-0821	EFR	1	Kb	Not at this time	-----	Measure for gaps	05/20/2019
T-0830	EFR	1	Kb	Measure for gaps	07/29/2019	Measure for gaps	06/03/2019
T-1225	EFR	1	Kb	Not at this time	-----	Measure for gaps	01/21/2019

Seal gaps, if any, will be measured as required for Group 1 (EFR) storage vessels subject to 40 CFR 63.646 (Refinery MACT I storage vessel provisions), which references the requirements of 40 CFR 63.119 and 120. For EFR tanks, 63.120(b)(1)(i) requires measurement of the gap between the vessel wall and the primary seal at least once every five years and 63.120(b)(1)(iii) requires measurement of the gap between the vessel wall and the secondary seal every year. The total seal gap surface area, if any, will be calculated in accordance with the provisions of 40 CFR 63.120(b)(4).

Although advance notification is not required, please note that the visual seal inspection for the IFR tanks listed will be done during the same week. Visual inspections will be performed as required for Group 1 internal floating roof (IFR) storage vessels subject to 40 CFR 63.646, which references the requirements of 40 CFR 63.119 and 120. For IFR tanks, 63.120(a)(3)(iii) requires visual inspection of the primary seal at least once every ten years and 63.120(a)(3)(ii) requires visual inspection of the secondary seal every year.

One or more of the tanks to be inspected may require fresh air packs for safe access. If you plan to observe the seal gap measurements for such tanks, please bring appropriate equipment and certified personnel.

Please call me at (575) 746-5487 or Ray Smalts at (575) 476-5490 if you have any questions.

Sincerely,

Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC
P.O. Box 159
Artesia, New Mexico 88211-0159
Phone: (575) 746-5487
E-mail: Scott.Denton@hollyfrontier.com

Electronic cc: Navajo: P. Miller, B. Romine, A. Karr, O. Dominguez, K. Newton, R. Smalts
Environmental File: 2.6.4 Tanks/Notifications/Artesia/2018/2018-12-12/2018-12-12 Artesia Notice of Seal Inspections.pdf

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
(575) 748-3311 • <http://www.hollyfrontier.com>



September 29, 2016

Enforcement Manager
Air Quality Bureau - Enforcement
NM Environment Department
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-1816

Certified Mail/Return Receipt
7014 3490 0000 6269 6021

**Re: Navajo Refining Company, L.L.C.
Artesia, NM Refinery
Title V Operating Permits P051-R2 & P051-R2M1
Annual Compliance Certification
Agency Interest No. 198
Reporting Period September 1, 2015 through August 31, 2016**

On behalf of Navajo Refining Company, L.L.C. (Navajo), I am submitting Navajo's annual compliance certification (ACC) for the Artesia, NM Refinery.

Title V Operating Permit P051-R2 Reporting Period: September 1, 2015 through January 21, 2016
Title V Operating Permit P051-R2M1 Reporting Period: January 22, 2016 through August 31, 2016

Consistent with the initial compliance certification, items identified during work practices, such as fugitive component monitoring inspections, that are corrected or repaired within the regulatory timeframe and that are properly documented, do not comprise exceptions or deviations.

Please feel free to contact me at (575) 746-487 or Ray Smalts at (575) 746-5490 if you have any questions or should require any further information.

Sincerely,

Scott M. Denton
Environmental Manager
Navajo Refining Company, LLC
P.O. Box 159
Artesia, New Mexico 88211-0159
Phone: (575) 746-5487
E-mail: Scott.Denton@hollyfrontier.com

Enclosure

cc: US EPA (w/enc): Chief, Air Permits, U.S. EPA Region 6 (6PD-R), 1445 Ross avenue, Suite 1200, Dallas, TX 75202-2733

Navajo: R. O'Brien, R. Boans, S. Denton, G. Combs, R. Smalts, A. Contreras, S. Hammond
Environmental File: Environmental Drive/Title V Certification/Artesia Certification/2016 Artesia Certification/2016-09-29 Artesia Title V Annual Compliance Certification.pdf

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
(575) 748-3311 • <http://www.hollyfrontier.com>



**New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375**



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NMED USE ONLY	
TEMPO	

REPORTING SUBMITTAL FORM

NMED USE ONLY	
Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION											
A. ® Company Name: Navajo Refining Company, L.L.C.					D. ® Facility Name: Navajo Refining Company, L.L.C.						
B.1 ® Company Address: PO Box 159					E.1 ® Facility Address: 501 E.Main St.						
B.2 ® City: Artesia		B.3 ® State: NM		B.4 ® Zip: 88211-0159 ^L		E.2 ® City: Artesia		E.3 ® State: NM		E.4 ® Zip: 88210	
C.1 ® Company Environmental Contact: Scott Denton			C.2 ® Title: Environmental Manager			F.1 ® Facility Contact: Scott Denton			F.2 ® Title: Environmental Manager		
C.3 ® Phone Number: 575-746-5487			C.4 ® Fax Number: 575-746-5451			F.3 ® Phone Number: 575-746-5487			F.4 ® Fax Number: 575-746-5451		
C.5 ® Email Address: Scott.Denton@hollyfrontier.com					F.5 ® Email Address: Scott.Denton@hollyfrontier.com						
G. Responsible Official: (Title V only): Robert K. O'Brien				H. Title: Vice President & Refinery Manager, Navajo Refining Company L.L.C.			I. Phone Number: 575-748-3311		J. Fax Number: 575-746-5451		
K. ® AI Number: 198		L. Title V Permit Number: P051-R2 P051-R2M1		M. Title V Permit Issue Date: 05/06/2015 01/22/2016		N. NSR Permit Number: PSD-NM-0195-M35R2 PSD-NM-0195-M37		O. NSR Permit Issue Date: 05/06/2014 08/12/2016			
P. Reporting Period: From: 09/01/2015 To: 01/21/2016 01/22/2016 08/31/2016											

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A.	☒ Title V Annual Compliance Certification	Permit Condition(s): A109	Description: Annual Compliance Certification	
B.	☐ Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C.	☐ NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D.	☐ MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E.	☐ NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F.	☐ Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ or NOI No. ☐	Condition(s):	Description:
G.	☐ Requirement of an Enforcement Action	NOV No. ☐ or SFO No. ☐ or CD No. ☐ or Other ☐	Section(s):	Description:

SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Robert K. O'Brien</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: 		® Title: Vice President & Refinery Manager, Navajo Refining Company L.L.C.	® Date: 09/29/2016
		® Responsible Official for Title V? ☒ Yes ☐ No	

Reviewed By: _____

Date Reviewed: _____

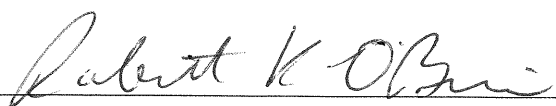
Title V Report Certification Form

I. Report Type			
☒ Annual Compliance Certification ☐ Semi-Annual Monitoring Report ☐ Other Specify:			
II. Identifying Information			
Facility Name: Artesia Refinery			
Facility Address: PO Box 159, Artesia		State: NM	Zip: 88211-0159
Responsible Official (RO): Robert K. O'Brien		Phone: 575-748-3311	Fax: 575-746-5421
RO Title: Vice-President & Refinery Manager, Navajo Refining Co. L.L.C.		RO e-mail:	
Permit No.: P051-R2		Date Permit Issued: 05/06/2015	
Report Due Date (as required by the permit): 09/30/2016		Permit AI number: 0198	
Time period covered by this Report: From: 09/01/2015			To: 01/21/2016

III. Certification of Truth, Accuracy, and Completeness	
I am the Responsible Official indicated above. I, <u>Robert K. O'Brien</u>, certify that I meet the requirements of 20.2.70.7.AD NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete. Signature <u></u> Date: <u>9/29/2016</u>	

Title V Report Certification Form

I. Report Type			
☒ Annual Compliance Certification ☐ Semi-Annual Monitoring Report ☐ Other Specify:			
II. Identifying Information			
Facility Name: Artesia Refinery			
Facility Address: PO Box 159, Artesia		State: NM	Zip: 88211-0159
Responsible Official (RO): Robert K. O'Brien		Phone: 575-748-3311	Fax: 575-746-5421
RO Title: Vice-President & Refinery Manager, Navajo Refining Co. L.L.C.		RO e-mail:	
Permit No.: P051-R2M1		Date Permit Issued: 01/22/2016	
Report Due Date (as required by the permit): 09/30/2016		Permit AI number: 0198	
Time period covered by this Report: From: 01/22/2016			To: 08/31/2016

III. Certification of Truth, Accuracy, and Completeness	
I am the Responsible Official indicated above. I, <u>Robert K. O'Brien</u>, certify that I meet the requirements of 20.2.70.7.AD NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete. Signature <u></u> Date: <u>9/29/2016</u>	

Title V Annual Compliance Certification for Permit P051-R2 & R2M1

Title (TV) Permit Administration Amendment

On **January 22, 2016** NMED AQB issued an Administrative Amendment to Operating Permit **P052-R2**.

The Administrative Amendment **P051-R2M1** corrected the following:

- **The Department acknowledges the Owner/Permittee name change from Navajo Refining Company, L.L.C. to HollyFrontier Navajo Refining LLC.**

For this is an Administrative Amendment (**P051-R2M1**), the facility can use one Annual Compliance Certification (ACC) Form which will cover both TV Permits.

Although the facility is only required to submit one ACC Form, the facility shall submit **two (2)** separate TV Report Certification Forms. Each form shall list the corresponding TV Permit number, TV Permit Issue Date and Reporting Period.

Please note that this is a one-time authorization. Submittal forms for future Administrative Revisions will be evaluated on a case by case basis.

This form can also be used for future submittal that cover only the **P051-R2M1** permit.

Part 1 - Permit Requirements Certification Table

Annual Compliance Certification Data for Title V Permit No. P051-R2 & R2M1				
1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
FACILITY SPECIFIC REQUIREMENTS A101 Permit Duration (expiration) A. The term of this permit is five (5) years. It will expire five years from the date of issuance. Application for renewal of this permit is due twelve (12) months prior to the date of expiration. (20.2.70.300.B.2 and 302.B NMAC)	Navajo submitted the application for renewal on September 11, 2013.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A101 Permit Duration (expiration) B. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate beyond the expiration date, provided that a timely and complete renewal application is submitted no later than twelve (12) months prior to the expiration date. (20.2.70.400.D NMAC)	Navajo submitted the application for renewal on September 11, 2013.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A102 Facility: Description B. This facility is located in the city limits of Artesia, NM.	This is the location of Navajo refinery.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A103 Facility: Applicable Regulations A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A	This permit condition provides a list of the applicable requirements that are addressed in detail in other permit conditions but does not impose any specific standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4,	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).			

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
NSR Permit No: PSD 0195-M35 (Per 20.2.72 NMAC)	X	Entire Facility
20.2.1 NMAC General Provisions	X	Entire Facility
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.33 NMAC Gas Burning Equipment -- Nitrogen Dioxide	X	Affected sources in <u>Table 103.E</u>
20.2.36 NMAC Petroleum Refinery - Sulfur	X	Entire Facility
20.2.37 NMAC Petroleum Processing Facilities	X	Entire Facility
20.2.38 NMAC Hydrocarbon Storage Facilities	X	Entire Facility
20.2.70 NMAC Operating Permits	X	Entire Facility
20.2.71 NMAC Operating Permit Emission Fees	X	Entire Facility
20.2.72 NMAC Construction Permit	X	Entire Facility
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	Entire Facility
20.2.74 NMAC Prevention of Significant Deterioration	X	Entire Facility
20.2.77 NMAC New Source Performance	X	Units subject to 40 CFR 60
20.2.78 NMAC Emission Standards for Hazardous Air Pollutants (HAPs)	X	Units subject to 40 CFR 61
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Units subject to 40 CFR 63
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility
40 CFR 60, Subpart A, General Provisions	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart Db "Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units"	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Dc "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, Which Construction, Reconstruction, or Modification Commenced After June 9, 1989"	X	H-0464; H-3101
40 CFR 60, Subpart J, "Standards of Performance for Petroleum Refineries"	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Ja, "Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007"	X	See Tables <u>103.B</u> to 103.J

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40 CFR 60, Subpart K, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978"	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"	X	See Tables <u>103.B</u> to 103.k
40 CFR 60, Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984"	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after January 4, 1983, and on or before November 7, 2006.	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after November 7, 2006.	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	X	See Tables <u>103.B</u> to 103.K
40 CFR 61, Subpart A, General Provisions	X	Entire Facility
40 CFR 61, Subpart FF, National Emission Standards for Benzene Waste Operations	X	Benzene Waste Operations
40 CFR 63, Subpart A, General Provisions	X	Entire Facility
40 CFR 63, Subpart Q, National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers	X	See Table <u>103.F</u>
40 CFR 63, Subpart CC	X	See Tables <u>103.B</u> to 103.K
40 CFR 63 Subpart DDDDD	X	See Tables <u>103.B</u> to 103.K
40 CFR 63 Subpart UUU, Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units	X	See Tables <u>103.B</u> to 103.KJ

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40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	X	See Tables 103.B to 103.KJ
40 CFR 68, (RMP), Section 112(r) Accidental Release	X	Entire Facility
Consent Decree CIV-01 1422LH Lodged 12/20/2001, Entered 3/5/2002	X	Entire Facility

Table 103.B Summary Applicability-Fugitives

Title V Permit Unit ID	Description	20.2.37	MACT CC	NSPS GGG	NSPS GGGa	NSPS QQQ	NESHAP J	NESHAP V	NAV-195-CC ¹
FUG-02-SP CRUDE	South Division Crude Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-05-KERO	Kerosene HDS Unit	NO	NO	NO	NO	YES	NO	NO	NO
FUG-06-NHDU	JP8 Hydrodesulfurization	NO	YES	NO	NO	YES	NO	NO	NO
FUG-07-N AMINE	Amine Unit-Treating/Regen.	YES	NO	YES	NO	YES	NO	NO	YES
FUG-07-SWS1	Sour Water Stripper	YES	NO	YES	NO	YES	NO	NO	NO
FUG-08-TRUCK RK	Loading Racks	NO	YES	NO	YES	YES	NO	NO	NO
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-10-FCC	FCC w/CVS	YES	YES	YES	NO	YES	NO	NO	NO
FUG-13-NHDU	Naphtha HDS Unit	YES	YES	YES	NO	YES	NO	NO	NO
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	NO	YES	NO	NO	YES	NO	NO	NO
FUG-20-ISOM	Powerformer/Penex Unit w/CVS	NO	YES	NO	NO	YES	NO	NO	NO
FUG-21-SP VACUUM	Flasher/Vacuum Unit	NO	NO	NO	YES	YES	NO	NO	NO
FUG-25-ROSE-2	ROSE Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-29-BLENDER/TK FARM	Light Oil Tankage	NO	YES	NO	YES	YES	NO	NO	NO
FUG-31-SRU3/TGTU3/TGI3	SRU3 Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/CVS	YES	YES	YES	NO	YES	NO	NO	NO
FUG-34-HYDROCRACKER	WX Hydrocracker	YES	YES	NO	YES	YES	NO	NO	NO
FUG-35-SAT GAS	Saturates Gas Plant	NO	YES	NO	NO	YES	NO	NO	NO
FUG-41-PBC	PBC Unit	NO	NO	NO	NO	YES	NO	NO	NO
FUG-43-S ALKY	South Alky Unit (W-76)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	YES	NO	NO	YES	NO	NO	NO

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FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	YES	YES	NO	YES	NO	NO	NO	
FUG-63-H2 PLANT-1	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-64-H2 PLANT-2	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-70-CCR	CCR Reformer (w/in battery limits)	YES	YES	YES	NO	YES	NO	NO	NO	
FUG-73-SP UTIL	Utilities	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-80-WWTP CVS	Oil/Water Separator	YES	YES	YES	NO	YES	NO	NO	YES	
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-FUEL GAS	Fuel Gas Distribution System	NO	YES	NO	NO	YES	NO	NO	NO	
FUG-LPG	LPG Storage System	NO	NO	NO	NO	YES	NO	NO	YES	
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/ CVS	YES	NO	YES	NO	YES	NO	NO	YES	
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks.	NO	NO	NO	NO	YES	NO	NO	NO	

Table 103.C, Summary Applicability - Tanks													
Tank No.	NSPS K	NSPS Ka	NSPS Kb	MACT CC Storage	MACT CC Wastewater	NESHAP FF	NSPS QQQ	20.2.37.205 NMAC	20.2.38.109 NMAC	20.2.38.110 NMAC	20.2.38.112 NMAC	20.2.38.113 NMAC	CA M
RW-4	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
RW-5	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	NO	NO
RW-6	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
T-0001	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0002	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0003	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0004	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
T-0011	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0012	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0013	NO	NO	NO	YES	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0026	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0028	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0031	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0040	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0041	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0042	NO	NO	NO	NO	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0045	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0046	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0049	NO	NO	NO	YES	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0055	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0056	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0057	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0059	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0061	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0063	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0064	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0065	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0071	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0072	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0073	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0074	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0075	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0076	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0078	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0079	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0081	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO

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T-0082	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0106	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0107	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0108	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0109	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0110	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0111	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0112	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0114	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0115	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0116	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0117	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0119	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0124	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0400	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0401	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0402	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0404	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0405	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0409	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0410	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0411	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0412	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0413	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0415	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0417	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0418	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0419	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0420	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0422	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0423	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0431	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0432	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0433	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0434	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0435	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0437	YES	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0438	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0439	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0446	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0447	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0448	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO

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T-0449	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0450	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0453	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0460	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0465	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0466	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0467	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0468	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0600	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0737	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	NO
T-0802	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	NO
T-0803	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0804	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0807	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0809	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0810	NO	NO	NO	NO	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0814	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0815	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0816	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0830	NO	NO	YES	NO	YES	YES	YES	YES	NO	NO	YES	NO	NO
T-0834	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0835	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0838	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0839	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0840	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0841	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0891	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0892	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1221	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1222	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1223	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1224	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-1225	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-1227	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
BioDiesel	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
Ethanol	NO	NO	YES	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO

Table 103.D, Summary Applicability											
Unit ID	Description	MACT CC		20.2.37.205.C		MACT BBBBBB		MACT CCCCCC		CAM	
TL-4	Fuels Truck Loading Rack	YES		NO		NO		NO		NO	
TL-7	CBO/LCO Truck Loading Rack	NO		NO		NO		NO		NO	
RLO-8	Railcar Loading & Off-Loading Rack	NO		NO		NO		NO		NO	

Table 103.E, Summary Applicability – Heaters and Boilers											
Unit ID	Description	NSPS D	NSPS Db	NSPS Dc	NSPS J	NSPS Ja	MACT DDDDD	20.2.33.108 NMAC	20.2.36 NMAC	20.2.37 NMAC	CAM
B-0007	Boiler 7	NO	YES	NO	YES	NO	YES	YES	YES	YES	NO
B-0008	Boiler 8	NO	YES	NO	YES	NO	YES	YES	YES	YES	NO
B-0009	Boiler 9	NO	YES	NO	NO	Yes	YES	YES	YES	YES	NO
H-0009	Unit 13 Naphtha Splitter Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0011	Unit 21 Vacuum Unit Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0018	Unit 06 HDS Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0019	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0020	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0028	Unit 21 Heater H-28	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0030	Unit 06 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0040	Unit 13 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0303	Unit 05 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0312	Unit 10 FCC Feed Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0352	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0353	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0354	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0355	Unit 70 Stabilizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0362	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0363	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO

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H-0364	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0421	Unit 44 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0464	SRU Hot Oil Heater	NO	NO	YES	YES	NO	NO	NO	YES	YES	NO
H-0473	SRU1 and SRU2 Tail Gas Incinerator	NO	NO	NO	YES	NO	NO	NO	YES	YES	NO
H-0600	Unit 09 Depropanizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0601	Unit 33 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-2421	Unit 45 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-8801/ H-8802	Unit 63 Hydrogen Plant Reformer	NO	NO	NO	YES	NO	YES	YES	YES	YES	NO
H-3402	Unit 34 Hydrocracker Reboiler 1	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO
H-3403	Hydrocracker Reactor Charge Heater	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO
H-9851	Unit 64 Hydrogen Plant Reformer	NO	NO	NO	NO	YES	YES	YES	YES	YES	NO
H-2501	Unit 25 ROSE® Unit No.2 Hot Oil Heater	NO	YES	NO	NO	YES	YES	YES	YES	YES	NO
H-3101 (formerly SRU3- HOH)	SRU3 Hot Oil Heater	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO
SRU3-TGI	SRU3 Tail Gas Incinerator	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO

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Table 103.F, Summary Applicability – Cooling Towers

Cooling Tower	Description	MACT Q	MACT CC	CAM
Y-0001	TCC Cooling Tower	YES	YES	NO
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	YES	YES	NO
Y-0008	North Alky Cooling Tower	YES	YES	NO
Y-0011	FCC & NP Cooling Tower	NO	YES	NO
Y-0012	Hydrogen Plants Cooling Tower	NO	YES	NO
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	NO	NO	NO

Table 103.G, Summary Applicability – Wastewater

Equipment ID	Emission Point ID	MACT CC Wastewater	NESHAP FF	NSPS QQQ	CAM
MAIN API	D-0829/0830	YES	YES	YES	NO
DAF-0896	DAF-0896	YES	YES	NO	NO
DAF-0806	DAF-0806	YES	YES	NO	NO
T-0801		YES	YES	NO	NO
T-0805		YES	YES	NO	NO
T-0829		YES	YES	NO	NO
T-0836		YES	YES	NO	NO
T-0897		YES	YES	NO	NO

Table 103.H, Summary Applicability – FCC-CCR

Unit ID	NSPS J	NSPS Ja	MACT UUU	20.2.37 NMAC	CAM
FCCREGEN	YES	NO	YES	YES	YES - Satisfied by MACT UUU
CCR	N/A	N/A	YES	N/A	NO

Table 103.I, Summary Applicability – SRU

Source ID	Emission Point ID	Description	NSPS J	NSPS Ja	MACT UUU	20.2.36.113.A(1)(d) & 20.2.36.113.A(1)(e)	20.2.37.200B	20.2.37.202.A	20.2.39	CAM
SRU1	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU
SRU2	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU
SRU3	SRU3-TGI	SRU3 Tail Gas Incinerator	NO	YES	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU

Table 103.J, Summary Applicability – Engines

Source ID	Description	NSPS IIII	MACT ZZZZ	20.2.61.109 NMAC	20.2.61.114 NMAC	CAM
E-0600W	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0601M	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0602E	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0603	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0901	Fire Water Pump Engine	YES	YES	YES	YES	NO
G-0100	UPS backup generator	NO	YES	YES	YES	NO
G-0101	UPS backup generator	NO	YES	YES	YES	NO
V-0543	Portable Air Compressor	YES	YES	YES	YES	NO
V-0545	Portable Air Compressor	YES	YES	YES	YES	NO
V-0546	Portable Air Compressor	YES	YES	YES	YES	NO
E-8010	WWTP Emergency Engine	YES	YES	YES	YES	NO

Table 103.K, Summary Applicability – FLARES

Unit ID	Description	NSPS A	NSPS J	NSPS Ja	NESHAP A	MACT A	20.2.36.112 NMAC	20.2.36.113b NMAC	20.2.37.201B NMAC
FL-400	North Plant Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-401	South Plant Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-402	FCCU Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-403	Alky Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-404	GOHT Flare	YES	NO	YES	NO	YES	YES	YES	YES

All flares are steam assisted.

State of New Mexico requires that an exit gas velocity of 65 ft/sec for modeling.

The heating value of the gas for all flares is < 1000 BTU/scf.

A103 Facility: Applicable Regulations

M. Compliance with the terms and conditions of this permit regarding source emissions and operation demonstrate compliance with national ambient air quality standards specified at 40 CFR 50, which were applicable at the time air dispersion modeling was performed for the facility's NSR Permit 0195-M35.

This permit condition provides a list of the applicable requirements that are addressed in detail in other permit conditions but does not impose any specific standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).

☐ Continuous
☒ Intermittent

☒ Yes
☐ No

☐ Yes
☒ No

A104 Facility: Regulated Sources

A. Table 104.A lists the emission units authorized for this facility. Emission units identified as insignificant or trivial activities (as defined in 20.2.70.7 NMAC) and/or equipment not regulated pursuant to the Act are not included.

This permit condition provides a list but does not impose any standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more

☐ Continuous
☒ Intermittent

☒ Yes
☐ No

☐ Yes
☒ No

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	information).			
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Table 104.A: Regulated Sources List					
Unit No.	Unit Type	Manufacturer	Model No.	Manufacture Date	Capacity
B-0007	Boiler 7	Todd/John Zink burners	Unknown	10/8/2001 *	215 MMBtu/hr (LHV Basis)
B-0008	Boiler 8	Todd/John Zink burners	Unknown	2003 *	215 MMBtu/hr (LHV Basis)
B-0009	Boiler 9	Babcock & Wilcox	TBD	TBD	220 MMBtu/hr (LHV Basis)
E-8010	WWTP Diesel Pump Engine	John Deere	6090HF485/ RG6090L101484	2/2011	400 hp
E-0600W	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113548	7/2012	376 hp
E-0601M	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113561	7/2012	376 hp
E-0602E	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113574	7/2012	376 hp
E-0603	Fire Water Pump Engine	Clarke Diesel (John Deere)	JU6H-UFADX8/ PE6068L228486	2012	305 hp
E-0901	Fire Water Pump Engine	Clarke Diesel (John Deere)	JX6H-UF30' RG6125A016118	10/2007	430 hp
G-0100	UPS backup generator	Deutz	F4L912GEN/ Engine Family WDZXL05.7010	1998	52 hp
G-0101	UPS backup generator	Deutz	F4L 1011 F/ EI97-68CA00-000-0053	1999	54 hp
V-0543	Portable Air Compressor	Cummings, Inc.	QSC, 73104611	8/30/2010	260 hp
V-0545	Portable Air Compressor	Cummings, Inc.	QSC, 73142120	4/8/2011	260 hp
V-0546	Portable Air Compressor	Cummings, Inc.	QSC, 46917364	11/19/2008	240 hp
H-0009	Unit 13 Naphtha Splitter Reboiler	Zeeco burners	GSFW-12 burners	Unknown	44 MMBtu/hr (LHV Basis)
H-0011	Unit 21 Vacuum Flasher Heater	Unknown	Unknown	Unknown	38 MMBtu/hr (LHV Basis)
H-0018	Naphtha HDS Reboiler	Zeeco burners	GSFW-8 burners	Unknown	32 MMBtu/hr (LHV Basis)
H-0019	South Crude Charge Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2005	54 MMBtu/hr (LHV Basis)
H-0020	South Crude Charge Heater	Callidus Technologies, LLC burners	CUBL-12W burners	New burners in 2005	78 MMBtu/hr (LHV Basis)
H-0028	Unit 21 Heater H-28 (previously H-10)	John Zink burners	PSFG-12 burners	Unknown	12.3 MMBtu/hr (LHV Basis)
H-0030	Unit 06 Charge Heater	John Zink burners	PSFG-16R burners	2000*	42 MMBtu/hr (LHV Basis)
H-0040	Unit 13 Charge Heater	John Zink burners	PSFG-16 burners	1990*	42 MMBtu/hr (LHV Basis)
H-0303	Unit 05 Charge Heater	John Zink burners	HEVD-Q-18 burners	1982*	11 MMBtu/hr (LHV Basis)
H-0312	Unit 10 FCC Feed Heater	John Zink burners	VYD-18 burners	1990*	35 MMBtu/hr (LHV Basis)
H-0352	Unit 70 CCR Heater (previously 70-H1)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	63 MMBtu/hr (LHV Basis)
H-0353	Unit 70 CCR Heater (previously 70-H2)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	81 MMBtu/hr (LHV Basis)
H-0354	Unit 70 CCR Heater (previously 70-H3)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	56 MMBtu/hr (LHV Basis)
H-0355	Unit 70 Stabilizer Reboiler Heater H-355 (previously 70H-4)	John Zink burners	Unknown	1991*	24 MMBtu/hr (LHV Basis)
H-0362	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2006	40 MMBtu/hr (LHV Basis)
H-0363	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2006	50 MMBtu/hr (LHV Basis)

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H-0364	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-6W burners	New burners in 2006	35 MMBtu/hr (LHV Basis)
H-0421	Unit 44 Charge Heater (previously H-21)	John Zink burners	LNC-PC-18 burners	1981*	27 MMBtu/hr (LHV Basis)
H-0464	SRU Hot Oil Heater	Callidus Technologies, LLC burners	LE-CSG-4W burners	2003*	9.6 MMBtu/hr (LHV Basis)
H-0600	Depropanizer Reboiler Heater (previously 3F-1)	Callidus Technologies, LLC burners	CUBL-12W burners	1991*, New burners in 2009	84 MMBtu/hr (LHV Basis)
H-0601	Unit 33 Charge Heater	Callidus Technologies, LLC burners	CUB-8P-CW burners	New burners in 2003	78 MMBtu/hr (LHV Basis)
H-2421	Unit 45 Charge Heater	Zeeco, Inc. burners	GLSF-14 Round Flame "Free Jet" burners	2006*	27 MMBtu/hr (LHV Basis)
H-8801	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-8802	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-2501	ROSE2 Hot Oil Heater	John Zink Company, LLC burners	COOLstar-18 burners	2009*	120 MMBtu/hr (LHV Basis)
H-3403	Hydrocracker Reactor Charge Heater	Callidus Technologies, LLC burners	CUBL-10W burners	TBD	32.0 MMBtu/hr (LHV Basis)
H-3402	Hydrocracker Fractionator Reboiler 1	Callidus Technologies, LLC burners	LE-CSG-12W burners	2009*	52 MMBtu/hr (LHV Basis)
H-9851	Unit 64 Hydrogen Plant Reformer	Callidus Technologies, LLC burners	CUBL-3WDF burners	2009*	337 MMBtu/hr (LHV Basis)
H-3101	SRU3 Hot Oil Heater	Callidus Technologies, LLC burner	Unknown	05/11/2009 *	9.6 MMBtu/hr (LHV Basis)
H-0473 (SRU1/SRU2 TGI)	SRU1 and SRU2 Tail Gas Incinerator	Unknown	Unknown	Unknown	NA
SRU3-TGI	SRU3 Tail Gas Incinerator	Callidus Technologies, LLC burners	Unknown	05/11/2009 *	NA
FCC Regenerator	FCC Regenerator Scrubber	Unknown	Unknown	Unknown	NA
CCRr	CCR Reformer	Unknown	Unknown	Unknown	NA
FL-0400, North Plant Flare	North Plant Flare	Unknown	Unknown	Unknown	NA
FL-0401, South Plant Flare	South Plant Flare	Unknown	Unknown	Unknown	NA
FL-0402, FCC Flare	FCC Flare	Unknown	Unknown	Unknown	NA
FL-0403, Alky Flare	Alky Flare	Unknown	Unknown	Unknown	NA
FL-0404, GOHT Flare	GOHT Flare	Unknown	Unknown	Unknown	NA
Y-0001	TCC Cooling Tower	Unknown	Unknown	Unknown	5,000 gpm, 0.003% drift
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	Unknown	Unknown	Unknown	5,000 gpm, 0.003% drift
Y-0008	North Alky Cooling Tower	Unknown	Unknown	Unknown	12,500 gpm, 0.003% drift
Y-0011	FCC & NP Cooling Tower	Unknown	Unknown	Unknown	30,000 gpm, 0.001% drift
Y-0012	Hydrogen Plants Cooling Tower	Unknown	Unknown	Unknown	10,000 gpm, 0.001% drift
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	Unknown	Unknown	Unknown	3,000 gpm, 0.003% drift
MAIN API	Above Ground API Oil-Water Separator	Unknown	Unknown	Unknown	1,200 gpm
T-0896	DAF Unit T-0896	Unknown	Unknown	Unknown	1,200 gpm
T-0801	Enhanced Biodegradation Tank T-0801	Unknown	Unknown	Unknown	1,200 gpm
T-0836	Enhanced Biodegradation Tank T-0836	Unknown	Unknown	Unknown	1,200 gpm
T-0829	Equalization Tank T-0829	Not yet installed	Not yet installed	Not yet installed	1,200 gpm
T-0806	DAF Unit T-0806	Not yet installed	Not yet installed	Not yet installed	Not yet installed
Fugitives (see Table 103.B)	Equipment component leaks (pump seals, valves, flanges, etc.)	NA	NA	Varies	NA
Loading (see Table 103.D)	Bulk Loading/Unloading Racks	NA	NA	Varies	Varies
Tanks (see Table 103.C)	Fixed Roof, External Floating Roof & Internal Floating Roof Tanks	NA	NA	Varies	Varies
* Installation date					

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Note: Serial numbers are not used since most equipment consists of field erected parts that are assembled on site and may have several "serial numbers" for various components. Heaters are the best example because each of the burners has a serial number but the heater as a whole does not have a single serial number. The heater as a whole is typically identified by our equipment number. There may also be a "project number" or "job number" from the manufacturer, but that can change if a heater is revamped at a later date such as when they modify the convection section to improve energy efficiency.

A105 Facility: Control Methods

A. Table 105.A lists all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.

This permit condition provides a list but does not impose any standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).

☐ Continuous
☒ Intermittent

☒ Yes
☐ No

☐ Yes
☒ No

Table 105.A: Control Methods:

Control Equipment Unit No.	Control Description	BACT Yes or No	Pollutant being controlled	Control for Unit Number(s) ¹
FCC Regenerator Scrubber	Fluid Catalytic Cracking Unit Regenerator Cyclones + Wet Gas Scrubber	NO	PM & SO ₂	FCC Regenerator
CHLOR SORB [®]	CCR Regenerator Vent Control	NO	Chloride	CCR Regenerator Vent
FL-0400	North Plant Flare	NO	VOC & H ₂ S	Refinery process units

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FL-0401	South Plant Flare	NO	VOC & H ₂ S	Refinery process units
FL-0402	FCC Flare	NO	VOC & H ₂ S	Refinery process units
FL-0403	Alky Flare	NO	VOC	Refinery process units
FL-0404	GOH Flare	NO	VOC & H ₂ S	Refinery process units
FL-HEP-PORT	Portable Flare for Holly Energy Partners (HEP) Pipeline Pigging Operations	NO	VOC	Pipeline Pigging Operations
H-0473	Sulfur Recovery Units No. 1 & 2 Tail Gas Incinerator	NO	Sulfur	SRU1 and SRU2
SCR	Selective Catalytic Reduction + ultra-low NOx burners	YES	NO _x	H-9851
SRU3-TGI	Sulfur Recovery Unit No. 3 Tail Gas Incinerator	YES	Sulfur	SRU3
SRU3/TGTU3/TGI3	Best Work Practices, A207.B (BACT)	YES	SO ₂	SRU3
D-0829/0830	Main API Carbon Canisters	NO	VOC	MAIN API
Y-0011, Y-0012	Drift Eliminators on Cooling Towers (BACT)	YES	PM	Y-0011, Y-0012

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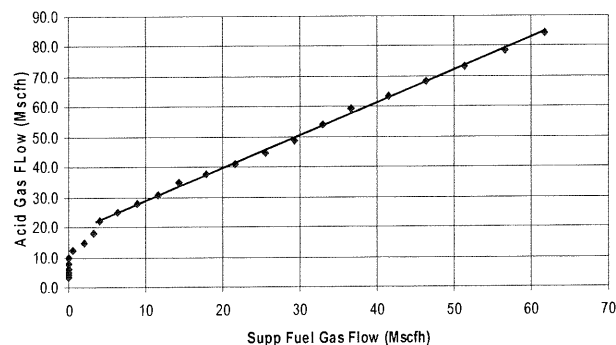
T-0737, T-1225	External Floating Roofs (BACT)	YES	VOC	T-0737, T-1225
See <u>Tables 106.B(1) and (2)</u>	External and Internal Floating Roofs (None-BACT)	NO	VOC	See Tables 106.B(1) and (2)
B-0009	Energy Efficiency, A204.N (BACT)	Yes	Greenhouse Gases	B-0009
H-2501, H-3402, H-3101	ultra-low NOx burners (BACT)	Yes	NOx	H-2501, H-3402, H-3101
SRU-TGI, H-2501, H-3402, H-3101	Combust gaseous fuels only	Yes	VOC, PM	SRU-TGI, H-2501, H-3402, H-3101

1 Control for unit number refers to a unit number from the Regulated Equipment List

- B. In accordance with the requirement that Navajo Refining prevent exceedances of the 24-hour and 3-hour National Ambient Air Quality Standards (NAAQS) for SO₂ during major refinery malfunctions, Navajo Refining shall only flare acid gas from existing Flare FL-0403 according to Navajo Refining's "Phase Two" plan dated January 5, 1996 and received by the Department on January 8, 1996, or from Flare FL-0400. Navajo shall undertake the following measures for acid gas flaring from FL-0400 and FL-0403.

CHART NO. 1

SUPP FUEL FOR SO₂ NAAQS COMPLIANCE, FL-400



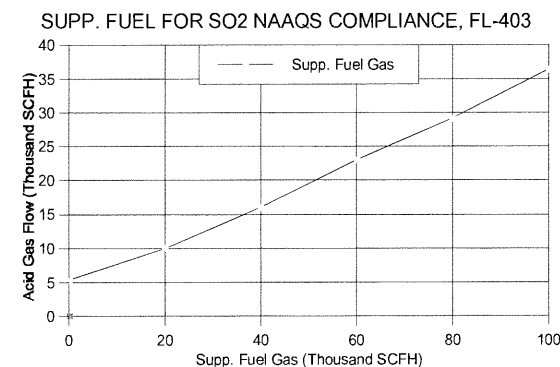
(1) Existing Flare FL-0400 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough heat to supplement the

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heat released by combustion of the acid gas itself and the heat provided by smoke-suppressing steam. The minimum flow rate of supplemental fuel gas to be supplied during acid gas flaring such that compliance with the NAAQS for SO₂ is assured shall be determined using Chart No. 1. The fuel gas used for this purpose shall be natural gas (see definition at C101.F).

- (2) Existing Flare FL-0403 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough supplemental heat. The volume of supplemental fuel gas to be provided to generate enough supplemental heat to ensure compliance with NAAQS for SO₂ shall be determined using Chart No. 2. The supplemental heat to be provided when flaring the maximum quantity of acid gas has been determined to be 52.9 million BTU per hour which is generated by burning 96,200 SCFH of supplemental fuel gas. This assumption has been made to ensure compliance with the NAAQS for SO₂. The fuel gas used for this purpose shall be natural gas (see definition at C101.F).

CHART NO. 2



- C. Beginning December 20, 2001 no fuel oil shall be burned in combustion units except as follows: (CD ¶17.C)
- (1) Torch Oil may be burned in the FCC Regenerator during FCC start-ups; and.
 - (2) Fuel Oil may be burned in combustion units after the establishment of FCC NO_x emissions limits pursuant to permit condition A110.A, provided that emissions from any such combustion units are routed through the FCC Wet Gas Scrubber and Navajo demonstrates, with the approval of EPA, that the NO_x emissions limits contained therein and the SO₂ emissions limits stated in A106.A and A107.A will continue to be met.
- D. The Artesia Refinery FCC was initially limited to less than 20,000 BPD capacity. Following the December 2003 expansion of the Artesia refinery's FCC as authorized by permit 195-M15, the catalyst regenerator for the FCC is subject to the minimum requirements for continuous emission monitoring and recording set forth in Appendix P to 40 CFR Part 51. Consent Decree Paragraph 15 required the FCC to be subject to NSPS Subpart J for opacity as of December 31, 2003. A wet gas scrubber was installed in 2003. An Alternative Monitoring Plan (AMP) request was submitted to EPA on December 31, 2003 because a continuous opacity monitoring system (COMS) will not work on a wet gas scrubber exhaust because of the interference from the water vapor. The AMP satisfies the requirements for both NSPS Subpart J and 40 CFR Part 51 Appendix P

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A106 Facility: Allowable Emissions A. The following Section lists the emission units, and their allowable emission limits. (See Table <u>103.A</u> for all applicable regulations)	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
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Table 106.A: Allowable Emissions

		SO ₂		² NO _x			CO			⁴ PM		VOC	
Source ID	^{3,5} MM Btu/hr	⁵ (lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu LHV)	(lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)
B-0007	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7		1.8	7.8	1.3	5.6
B-0008	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7		1.8	7.8	1.3	5.6
B-0009	220	2.6	11.4	4.4	19.3	0.02 BACT	8.1	35.7		1.6	7.2	0.9	3.9
H-0009	44	1.6	2.6	4.0	17.3	0.09	4.0	17.5		0.4	1.6	0.3	1.2
H-0011	38	1.4	2.3	9.5	31.6	-	3.5	15.2		0.3	1.4	0.2	1.0
H-0018	32	1.2	1.9	3.5	15.2	-	2.9	12.8		0.3	1.2	0.2	0.8
H-0019	54	2.0	3.2	2.9	12.5	0.0527	4.9	21.5		0.4	2.0	0.3	1.4
H-0020	78	2.8	4.6	4.2	18.3	0.0535	7.1	31.1		0.6	2.8	0.5	2.0
H-0028	12.3	0.4	0.7	2.2	9.5	-	1.1	4.9		0.1	0.4	0.1	0.3
H-0030	42	1.5	2.5	3.2	14.0	-	3.8	16.8		0.4	1.5	0.3	1.1
H-0040	42	1.5	2.5	3.8	16.6	-	3.8	16.8		0.4	1.5	0.3	1.1
H-0352/0353/0354	63/81/56	7.3	11.8	9.0	39.4	0.045	18.2	79.7		1.7	7.2	1.2	5.2
H-0355	24	0.9	1.4	2.2	9.5	-	2.2	9.6		0.2	0.9	0.1	0.6
H-0303	11	0.4	0.7	1.2	5.2	-	1.0	4.4		0.1	0.4	0.1	0.3
H-0312	35	1.3	2.1	4.6	20.2	-	3.2	14.0		0.3	1.3	0.2	0.9
H-0362/0363/0364	40/50/35	4.6	7.4	6.9	30.1	0.055	11.4	49.8		1.0	4.5	0.7	3.3
H-0421	27	1.0	1.6	2.4	10.6	0.09	2.5	10.8		0.2	1.0	0.2	0.7
H-0464	9.6	0.4	0.6	0.5	2.3	-	0.9	3.8		0.1	0.4	0.1	0.3
H-0600	84	3.1	5.0	4.7	20.3	0.05	7.6	33.5		0.7	3.03	0.5	2.2
H-0601	78	2.8	4.6	3.5	15.4	0.045	7.1	31.1		0.6	2.8	0.5	2.0
H-2421	27	1.0	1.6	1.2	5.3	0.045	2.5	10.8		0.2	1.0	0.2	0.7
H-8801/8802	60/60	0.2	0.8	4.2	18.4	0.035	10.9	47.8		1.0	4.3	0.7	3.1
H-2501	120	4.4	7.1	3.6	15.8	0.03	7.2	31.5	0.09 BACT	1.0	4.3	0.7	3.1
H-3402	52	1.9	3.1	1.6	6.8	0.03	4.7	20.7	0.09 BACT	0.4	1.9	0.3	1.4

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H-3403	32.0	1.2	1.9	1.0	4.2	0.03	2.9	12.8		0.3	1.2	0.2	0.8
H-9851	337	0.5	2.2	4.2	18.5	0.0125 BACT	20.2	88.6	0.06 BACT	2.8	12.2	2.0	8.8
H-3101	9.6	0.4	0.6	0.3	1.3	0.03	0.9	3.8	0.09 BACT	0.1	0.4	0.1	0.3
H-0473 (SRU1/SRU2 TGI)	NA	30.0	81.8	6.5	28.5	N/A	27.7	121.2		0.5	2.2	0.1	0.6
SRU3-TGI	NA	30.0	81.8	6.5	28.5	N/A	15.0	65.7		0.5	2.2	0.1	0.6
FCC Regenerator	NA	27.9	61.0	35.0	101.9	N/A	121.9	106.8		25.0	109.5	-	-
FL-0400, North Plant Flare	NA	0.2	0.5	0.2	0.8	N/A	1.0	4.3		0.0	0.0	0.2	0.7
FL-0401, South Plant Flare	NA	0.1	0.1	<0.1	0.2	N/A	0.2	1.1		0.0	0.0	<0.1	0.2
FL-0402, FCC Flare	NA	0.1	0.1	<0.1	0.2	N/A	0.2	1.1		0.0	0.0	<0.1	0.2
FL-0403, Alky Flare	NA	<0.1	<0.1	<0.1	<0.1	N/A	<0.1	0.2		0.0	0.0	<0.1	<0.1
FL-0404, GOHT Flare	NA	2.4	10.5	4.1	18.1	N/A	13.6	59.6		0.0	0.0	2.3	10.2
Subtotal			345.4		668.8			1156.2			196.0		70.2
Tanks, Table 106.E													322.4
Fugitives, Table 106.F													994.6
Misc Sources, Table 106.G													16.6
Cooling Towers, Table 106.H								2.5			9.0		56.2
Oil/Water Separators, Table 106.I												5.3	9.5
⁶ SSM, Table 107			27.4		31.6			97.6			0.4		46.2
TOTAL ¹	NA		372.8		700.4	N/A		1256.3			205.3		1515.7

¹ Totals are for information and are not enforceable conditions.² Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO₂³ lbs-NO_x/MMBtu of heat input, calculated as a 3-hour average, when firing natural gas at 3% stack oxygen at full design load without air preheat.⁴ All Particulate Matter emitted is assumed to be of aerodynamic diameter 10 microns or less.⁵ Hourly emission limits and lb/MM Btu limits are based on a hourly rolling 3-hour average.⁶ Maximum allowable emissions during maintenance, startup, or shutdown (SSM) and malfunction activities.

“-“ indicates that in accordance with the application, emissions of this pollutant are not expected.

“- -“ indicates that the emissions are less than 1.0 pph or 1.0 tpy and emission limits are not required for this permit, unless it's for a control device.

Unit 9851, the SCR exhaust has Ammonia Slip limit of 7 ppmv on a wet basis and 6.1 tpy (BACT).

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A106 Facility: Allowable Emissions B. The permitted emission sources at the refinery shall consist only of the sources listed in Table 106.A and <u>Tables 106.B through 106.I</u> of this permit.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
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INTERNAL FLOATING ROOF STORAGE TANKS TABLE 106.B(1) VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC)			
Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored ¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0056	Naphthas	High Vapor Pressure ²	11.0
T-0106	Distillates	High Vapor Pressure ²	11.0
T-0107	Gasolines	High Vapor Pressure ²	11.0
T-0108	Gasolines	High Vapor Pressure ²	11.0
T-0109	Gasolines	High Vapor Pressure ²	11.0
T-0111	Naphthas	High Vapor Pressure ²	11.0
T-0112	Naphthas	High Vapor Pressure ²	11.0
T-0011	Gasolines	High Vapor Pressure ²	11.0
T-0124	Gasolines	High Vapor Pressure ²	11.0
T-0012	Gasolines	High Vapor Pressure ²	11.0
T-0413	Distillates	High Vapor Pressure ²	11.0
T-0415	Gasolines	High Vapor Pressure ²	11.0
T-0417	Gasolines	High Vapor Pressure ²	11.0
T-0439	Crude Oil	High Vapor Pressure ²	11.0

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

EXTERNAL FLOATING ROOF STORAGE TANKS**TABLE 106.B(2) VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC) -**

Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0057	Naphthas	High Vapor Pressure ²	11.0
T-0078	Isomerates	High Vapor Pressure ²	11.0
T-0079	Isomerates	High Vapor Pressure ²	11.0
T-0117	Gasolines	High Vapor Pressure ²	11.0
T-0401	Gasolines	High Vapor Pressure ²	11.0
T-0402	Gasolines	High Vapor Pressure ²	11.0
T-0411	Gasolines	High Vapor Pressure ²	11.0
T-0412	Gasolines	High Vapor Pressure ²	11.0
T-0435	Crude Oil	High Vapor Pressure ²	11.0
T-0437	Crude Oil	High Vapor Pressure ²	11.0
T-0450	Naphthas	High Vapor Pressure ²	11.0
T-0802	Sour Water	High Vapor Pressure ²	11.0
T-0830	Slop	High Vapor Pressure ²	11.0
T-0834	Distillates	Moderate Vapor Pressure ³	1.5
T-0835	Distillates	High Vapor Pressure ²	11.0
T-1225	Naphthas	High Vapor Pressure ²	11.0
T-0737	Sour Water	High Vapor Pressure ²	11.0
TK-NEWETHANOL	Ethanol	High Vapor Pressure ²	2.32

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomerate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

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FIXED ROOF STORAGE TANKS			
TABLE 106.C VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)			
Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0013	Slop	Moderate Vapor Pressure ³	1.5
T-0040	Distillates	Low Vapor Pressure ⁴	0.5
T-0041	Distillates	Low Vapor Pressure ⁴	0.5
T-0110	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0400	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0404	Carbon Black Oil (CBO)	Low Vapor Pressure ⁴	0.5
T-0405	CBO	Low Vapor Pressure ⁴	0.5
T-0409	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0410	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0418	Distillates	Low Vapor Pressure ⁴	0.5
T-0419	Distillates	Low Vapor Pressure ⁴	0.5
T-0420	CBO	Low Vapor Pressure ⁴	0.5
T-0422	Distillates	Low Vapor Pressure ⁴	0.5
T-0423	Distillates	Low Vapor Pressure ⁴	0.5
T-0431	Distillates	Low Vapor Pressure ⁴	0.5
T-0432	Distillates	Low Vapor Pressure ⁴	0.5
T-0049	Slop	Moderate Vapor Pressure ³	1.5
T-0055	Distillates	Low Vapor Pressure ⁴	0.5
T-0058	Distillates	Low Vapor Pressure ⁴	0.5
T-0059	CBO	Low Vapor Pressure ⁴	0.5
T-0061	Distillates	Low Vapor Pressure ⁴	0.5
T-0063	CBO	Low Vapor Pressure ⁴	0.5

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T-0065	CBO	Low Vapor Pressure ⁴	0.5
T-0075	CBO	Low Vapor Pressure ⁴	0.5
T-0433	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0434	Distillates	Low Vapor Pressure ⁴	0.5
T-0438	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0810	Slop	Moderate Vapor Pressure ³	1.5
T-0814	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0815	Distillates	Low Vapor Pressure ⁴	0.5
T-0838	Distillates	Low Vapor Pressure ⁴	0.5
T-1227	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0081	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0082	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
RW-4	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-5	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-6	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
TK-NEWBIODIES EL	Biodiesel	Low Vapor Pressure ⁴	0.022

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

⁴ Low Vapor Pressure Liquids include: Diesel (raw or finished), Kerosene (raw or finished), JP-8, CBO, LCO, Slurry, Heavy Slop, Cutback Asphalt, Cutter, VGO, AGO, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure less than 0.5 psia under actual storage conditions.

TABLE 106.D – STORAGE TANK THROUGHPUT AND TEMPERATURE LIMITS

Material	Throughput (bbl/yr)	Maximum Storage Temperature (°F)
Asphalt/Pitch	30,872,000	510
Carbon Black Oil (CBO)	1,291,610	250
Crude Oil	76,212,000	Ambient

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Distillate	55,076,590	310
Gas Oil	25,059,500	310
Gasoline (includes isomerates)	57,910,908	Ambient
Naphtha	39,028,084	Ambient
Slop	1,330,000	Ambient
Sour Water	45,051	Ambient
BioDiesel	949,000	Ambient
Methanol	142,350	Ambient

TABLE 106.E– STORAGE TANK VOC AND H₂S EMISSION LIMITS¹ (return to A203)

Tank Type	VOC Emission Rate (tpy)	H ₂ S Emission Rate (tpy)
Fixed-Roof	238.6	0.0
Floating-Roof	83.8	1.47
Total Tanks	322.4	1.47

¹ The permittee shall demonstrate compliance with the above throughputs and emission limits through the annual emissions inventory process. Specific tank data (e.g. temperature & throughputs) shall be monitored and recorded weekly by the permittee.

Table 106.F, ¹EMISSIONS LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC) FUGITIVE EMISSIONS FROM EQUIPMENT LEAKS

Process Unit ID Number	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
FUG-02-SP CRUDE	South Division Crude Unit	10.2	44.6
FUG-10-FCC	FCC w/CVS	10.8	47.2
FUG-20-ISOM	Powerformer/Penex Unit w/CVS	5.9	25.7
FUG-21-SP VACUUM	Flasher/Vacuum Unit	3.2	13.9
FUG-05-KERO	Kerosene HDS Unit	5.2	22.7
FUG-06-NH DU	JP8 Hydrodesulfurization	7.1	30.9
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	3.5	15.3
FUG-35-SAT GAS	Saturates Gas Plant	18.3	80.0
FUG-29-BLENDER/TK FARM	Light Oil Tankage	6.8	29.6
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	3.5	15.3
FUG-FUEL GAS	Fuel Gas Distribution System	4.2	18.2

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FUG-LPG	LPG Storage System	21.6	94.4
FUG-41-PBC	PBC Unit	3.4	14.7
FUG-70-CCR	CCR Reformer (w/in battery limits)	23.4	102.3
FUG-13-NH DU	Naphtha HDS Unit	10.2	44.6
FUG-43-S ALKY	South Alky Unit (W-76)	1.7	7.5
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	12.0	52.5
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	9.3	40.6
FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	2.6	11.2
FUG-07-N AMINE	Amine Unit-Treating/Regen.	6.3	27.5
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/CVS	2.4	10.4
FUG-07-SWS1	Sour Water Stripper	1.6	7.0
FUG-80-WWTP CVS	Oil/Water Separator	1.3	5.5
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/CVS	12.9	56.4
FUG-08-TRUCK RK	Loading Racks	2.8	12.1
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	0.7	2.9
FUG-73-SP UTIL	Utilities	16.7	73.3
FUG-63-H2 PLANT-1	Hydrogen Plant	2.6	11.2
FUG-31-SRU3/TGTU3/TGI3	SRU3 Unit	0.7	3.1
FUG-34-HYDROCRACKER	WX Hydrocracker	6.2	27.2
FUG-25-ROSE-2	ROSE Unit	8.0	35.1
FUG-64-H2 PLANT-2	Hydrogen Plant	2.6	11.2
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks	0.1	0.5
Subtotal Facility VOC CAP		227.8	994.6

¹ Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available Significant permit revision in accordance with 20.2.72 NMAC. The facility wide fugitive VOC emission limit shown above and in Table 106.A of this permit.

MISCELLANEOUS SOURCES
Table 106.G EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF
VOLATILE ORGANIC COMPOUNDS (VOCs)

Loading Rack	Loading Rack Description	Material Loaded	Hourly Throughput	Annual Throughput	VOC Emissions	
			bbl/hr	bbl/yr	lb/hr	ton/yr
TL-4 ^a	Fuels Truck Loading Rack	Gasoline	1214	1,600,696	4.25	2.80
		Diesel	107100	3,650,000	1.72	1.72
		Jet Fuel	35700	1,021,718	0.75	0.34
		TOTAL VOC			6.73	4.86
TL-7	CBO/LCO Truck	Carbon Black Oil	30000	500,808	6.30	1.57

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	Loading Rack	Light Cycle Oil	38100	20,119	3.55	0.06
		TOTAL VOC			6.30	1.63
RLO-8	Railcar Loading & Off-Loading Rack	Carbon Black Oil	30000	365,000	6.30	1.15
		Diesel	20000	1,144,000	0.32	0.54
		Jet Fuel	20000	1,144,000	0.42	0.38
		Asphalt	30000	2,628,000	0.01	0.03
		TOTAL VOC			6.30	2.09
FUG-ODOR	Odor Controlling Atomizer		1250 ml/hr	10950 liters	0.46	2.0

Note:1. Calculation method and factors per AP-42, Section 5.2, dated June 2008.

- a Controlled emission rate. The previous controlled rate was set by the terms of the consent agreement between Navajo Refining Co. and the Department executed January 28, 1994. The agreement required that the incinerator have a minimum 90% destruction efficiency for gasoline loading and a minimum 80% destruction efficiency for diesel fuel loading or Jet A fuel loading. This was achieved by a vapor combustor. This device has since been replaced with a carbon adsorption system compliant with MACT Subpart R, as subject per MACT Subpart CC. Emission limits changed in 195-M-17 to correspond to Title V permit values.

COOLING TOWERS						
Table 106.H EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS and PM						
Source ID	VOC lb/hr	VOC tons/yr	PM (lb/hr)	PM (tons/yr)	CO (lb/hr)	CO (tons/yr)
Y-0001	1.8	7.9	0.3	1.2		
Y-0002	1.8	7.9	0.3	1.2		
Y-0008 ^a	6.5	28.3	0.7	2.9	0.58	2.54
Y-0011	1.3	5.5	0.5	2.3		
Y-0012	0.4	1.8	0.2	0.8		
CT TT-0006	1.1	4.7	0.2	0.7		
Subtotal (for informational purposes only)	12.8	56.1	2.1	9.1		

^a Y-0008 cooling tower provides 100% control of any NH₃ emissions from V-H2 and V-H2-2. Unit 64, Hydrogen Plant has de-aerator line that has dissolved CO that is connected to the cooling tower.

API OIL/WATER SEPARATORS				
Table 106.I EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)				
Equipment ID	Emission Point ID	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
MAIN API	D-0829/0830	Above Ground API Oil-Water Separators	<0.1	<0.1

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		and enclosed drain system.			
T-0896	DAF-0896	DAF Unit T-0896	<0.1	<0.1	
T-0801	T-0801	Enhanced Biodegradation Tank T-0801	<0.1	<0.1	
T-0836	T-0836	Enhanced Biodegradation Tank T-0836	0.1	0.5	
T-0829	T-0829	Equalization Tank T-0829	5.1	8.9	
T-0806	DAF-0806	DAF Unit T-0806	<0.1	<0.1	
		Subtotal (for informational purposes only)	5.3	9.4	

A106 Facility: Allowable Emissions		☒ Continuous	☐ Yes	☒ Yes
C. Compliance with Allowable Emission Limits		☒ Intermittent	☒ No	☐ No
Requirement: The allowable mmBtu/hr, lb/mmBtu, lb/hr, and tpy emission limits for equipment listed in Table 106.A construction of which predates the effective date of 20.2.72 NMAC (August 31, 1972), and have not been modified since August 31, 1972, shall be the "potential emission rate" of that unit as defined in 20.2.72.107 NMAC and the potential to emit of that unit defined under 20.2.74 NMAC. The mmBtu/hr, lb/hr and lb/mmBtu limits are based on an hourly rolling 3-hour average. (NSR 0195M35, Condition A106.C and revised)	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.			
Monitoring: For units with lb/mmBtu emission limits in Table 106.A, the Permittee shall monitor the lb/mmBtu to demonstrate compliance with the mmBtu/hr, lb/hr, and tpy emission limits.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous	☐ Yes	☒ Yes
Recordkeeping: To demonstrate compliance, records shall be kept showing the correlation between lb/mmBtu and the	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Intermittent	☒ No	☐ No

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mmBtu/hr and lb/hr, and the monthly rolling 12-month tpy totals. The records shall also document any non-compliance with emission limits. For each unit, a summary of the method used to determine compliance shall be recorded. The permittee shall maintain records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A106 Facility: Allowable Emissions D. BACT SO₂ Limit – Fuel sulfur limit Refinery-Wide for all units burning refinery fuel gas (excluding units H-8801, H-8802 and H-9851 which burn only natural gas) shall not exceed 60 ppmv H₂S on a daily rolling 365-day average. The ton/yr emission rates for SO₂ in Table 106.A of this permit are based on this daily rolling 365-day average 60 ppmv H₂S limit. Compliance with this limit shall be demonstrated per the methods described in Condition A110.A.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A106 Facility: Allowable Emissions E. BACT NO_x Limit - In addition to the emission limits shown in Table 106.A, Boiler Unit B-0009 has a BACT NO_x limit of 0.02 lb/MM Btu, and CO₂ limit of 112.1 lb/MM Btu.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

A106 Facility: Allowable Emissions F. BACT SO₂ Limit – The Sulfur Recovery Unit No. 3 Tail Gas Incinerator (SRU3-TGI) is limited to 192 ppmvd SO ₂ at zero percent oxygen on a hourly rolling 12-hour average basis. In addition, SRU3-TGI is limited to 192 ppmvd SO ₂ at zero percent oxygen on a daily rolling 365-day average basis.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A106 Facility: Allowable Emissions G. BACT VOC Limit – The naphtha storage tank T-1225 and sour water storage tank T-0737 shall be equipped with an external floating roof using double seals to reduce VOC emissions to the atmosphere. The maximum true vapor pressure of any volatile organic liquid stored in either tank shall not exceed 11.0 psia. Demonstration of compliance is through the NSPS Kb and MACT emission limits.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A106 Facility: Allowable Emissions H. VOC – All fugitive piping components in VOC service associated with the process units proposed in Permit 195-M25 (Units FUG-25-ROSE-2, FUG-31-SRU3/TGI3/TGI3, and FUG-34-Hydorcracker) shall be monitored under the MACT subpart CC leak detection and repair program, or an approved equivalent program, to reduce VOC emissions.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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A106 Facility: Allowable Emissions I. VOC – Consistent with MACT Subpart CC, the gasoline truck loading rack (TLO-4) shall be limited to 10 mg of VOC emissions per liter of gasoline loaded.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A106 Facility: Allowable Emissions J. PM10 – Cooling towers, Units Y-0011 and Y-0012, shall be equipped with high-efficiency drift eliminators to reduce PM10 emissions. Demonstration of compliance is through annual inspection in accordance with in Condition A212.B.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions A. The maximum allowable SSM and Malfunction emissions limits for this facility are listed in Table 107.A and were relied upon by the Department to determine compliance with applicable regulations.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

Table 107.A: Allowable SSM and Malfunction Units, Activities, and Emission Limits¹

Unit	Description of Emissions	NOx		CO		VOC		TSP/PM ₁₀ /PM _{2.5}		SO ₂		H ₂ S	
		pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
SSM H-9851	Emissions during SCR downtime ¹	10.1	1.2	20.2	2.4	2.0	0.2	2.8	0.3	0.5	0.1	--	--
SSM T-0737	Emissions from roof landing	--	--	--	--	33.0	0.5	--	--	--	--	--	--
SSM Misc 1	Emissions from catalyst handling	--	--	--	--	--	--	1.5	<0.1	--	--	--	--

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SSM SRU3-TGI	Emissions from SRU3 startup and shutdown	6.5	<0.1	15.0	0.1	0.1	<0.1	--	--	159.0	0.4	6.5	<0.1
SSM T-0078	Emissions from roof landing and tank refilling	--	--	--	--	177.0	2.7	--	--	--	--		
SSM T-0079	Emissions from roof landing and tank refilling	--	--	--	--	306.0	4.6	--	--	--	--		
SSM T-1225	Emissions from roof landing					187.0	2.8						
SSM FL-HEP-PORT	Temporary, portable flare for natural gas pipeline maintenance	173.4	0.1	943.5	0.5	160.7	0.1	--	--	1.7	<0.1	0.02	<0.1
SSM SRU2-TGI (H-0473)	Emissions from SRU2 startup and shutdown	6.5	0.1	27.7	0.2	0.2	0.1	--	--	159.0	0.4	6.6	0.1
SSM Flare Cap	Emissions from venting SSM activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404.	162.9	18.3	1243.0	77.0	211.6	13.2	--	--	1133.4	14.9	0.4	0.1
Flares Malf Cap	Upset and Malfunction Emissions	--	10.0	--	10.0	--	10.0	--	--	--	10.0	--	--
SSM Misc 2	Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as heat exchanger repair.	17.0	1.9	127.1	7.8	21.2	1.4	--	--	129.3	1.6	0.7	0.1--
SSM Tanks Misc	Storage Tanks	--	--	--	--	112.0	10.6	--	--	--	--	0.1	0.1
Subtotal SSM/M1			31.6		98.0		46.2		0.4		27.4		0.4

During startup, shutdown, schedule maintenance or malfunction of the SCR control system, BACT for H-9851 shall be ultra-low NOx burners emitting no more than 03 lb per MMBtu (LHV) on a hourly rolling 3-hour average basis at 3% excess oxygen. Pound per hour and tons per year limits are based on the lb/MMBtu limits and were used to demonstrate compliance with the lb/MMBtu limits and the Ambient Air Quality Standards (AAQS).

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions		☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
B. The authorization of emission limits for startup, shutdown, maintenance, and malfunction does not supersede the requirements to minimize emissions according to Conditions B101.C and B107.A.	Navajo complies with the conditions of B101.C and B107.A.			

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions		☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
C. SSM Flaring and combustion Emissions Requirement: The permittee shall comply with the flaring and combustion SSM NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emission limits at Table 107.A for the following SSM events: 1) SSM H-9851, Emissions during SCR downtime 2) SSM SRU-TGI, Emissions from SRU3 startup and shutdown 3) SSM FL-HEP-PORT, Temporary, portable flare for natural gas pipeline maintenance 4) SSM SRU2-TGI (H-0473), Emissions from SRU2 startup and shutdown 5) SSM Flare Cap, Emissions from venting SSM activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404 6) SSM Misc 2, Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as	1), 2), 3), 4), 5), and 6) Navajo obtains fuel gas analysis monthly from New Mexico Gas Company. Navajo continues to comply with these requirements except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.			

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heat exchanger repair. (NSR 0195M35, Condition A107.C and revised)				
Monitoring: The permittee shall monitor all flaring and combustion due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting all the SSM flaring and combustion information specified in A107C. Recordkeeping.	Navajo Environmental Department keeps an up-to-date events summary with emission units and pollutant.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: The permittee shall record the date, start and end times, and duration of every SSM flaring or combustion event. The NO _x , CO, VOC, SO ₂ , TSP, PM ₁₀ , and H ₂ S emissions shall be calculated for each event based on the volume of gas sent to the flare and the total sulfur content of the flared gas. Compliance with the hourly emission rates shall be demonstrated by calculating the hourly emission rates for each event and comparing the results to the hourly emission rate at Table 107.A. The annual emission rate shall be calculated as follows: 1) To demonstrate compliance during the first 12 months of monitoring, the permittee shall calculate and sum the monthly cumulative total of NO _x , CO, VOC, SO ₂ , TSP, PM ₁₀ , PM _{2.5} , and H ₂ S emissions; and 2) After the first 12 months of monitoring, the permittee shall	Navajo keeps records of SSM events. Maintenance scheduling is based on engineering judgment and operating experience.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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calculate and sum the total of NO _x , CO, VOC, SO ₂ , TSP, PM ₁₀ , PM _{2.5} , and H ₂ S emissions on a monthly rolling 12 month basis. 3) The permittee shall maintain all records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Reports required by Section B110 are submitted as necessary, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions D. SSM VOC Emissions (Facility-Wide, Non-Combustion Sources) Requirement: The permittee shall comply with the SSM VOC emission limit at Table 107.A.	Navajo complies with the requirements listed in table 107.A.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall monitor all VOC emission activities due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting VOC emission calculation information for the following SSM VOC emission activities: 1) SSM T-0737, Emissions from roof landing 2) SSM T-0078, Emissions from roof landing and tank refilling 3) SSM T-0079, Emissions from	Navajo complies with these requirements.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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roof landing and tank refilling 4) SSM T-1225, Emissions from roof landing 5) SSM Tanks Miscellaneous				
Recordkeeping: The annual SSM VOC emission rate shall be calculated as follows: 1) To demonstrate compliance during the first 12 months of monitoring the permittee shall calculate and sum the monthly cumulative total of VOC emissions; and 2) After the first 12 months of monitoring the permittee shall calculate and sum the total of VOC emissions on a monthly rolling 12 month basis, including the methodology and/or assumptions used in the calculation(s). The permittee shall keep records to demonstrate compliance in accordance with Condition B109C, except the requirement in B109.C(2) to record the start and end times of SSM events shall not apply to known quantities of VOC emissions. 3) The permittee shall maintain all records in accordance with Section B109.	Navajo complies with these requirements.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions E. SSM Particulate Emissions (Unit SSM Misc 1) Requirement: The permittee shall minimize particulate emissions due to SSM events.	Navajo complies with these requirements.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall monitor all particulate emissions due to routine and predictable startups, shutdowns, and scheduled maintenance events. For the event type of FCCU Catalyst Loading, the maximum material usage shall not exceed 1 hr-duration, 1 loading event/yr; and 237,048 lb/event/yr.	Navajo complies with these requirements.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: For each event, the permittee shall maintain records of the duration in hours, events per year, and material usage for the particulate matter emitting SSM event - FCCU Catalyst Loading. The annual material usage shall be based on monthly rolling 12-month total. The permittee shall maintain all records in accordance with Section B109.	Navajo complies with these requirements.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions F. SSM and Malfunction Flaring Emissions (SSM Flare Cap and Flares Malf Cap) Requirement: The permittee shall not exceed the pound per hour (pph) and ton per year (tpy) emission limits in Table A107.A and shall demonstrate compliance with these limits by calculating and summarizing these emission rates as required in recordkeeping.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: A gas flowmeter and flow totalizer, equipped with a chart recorder or electronic data logger, shall be installed in the flare line to measure and record the total standard cubic feet (scf) of all gas (process gas, purge gas, pilot gas, and supplemental fuel gas) sent to the flare during each hour and each month. The permittee shall measure the H₂S content, the total sulfur content, the VOC content, and the heating value (Btu/scf) of the gas sent to the flare for combustion. H₂S shall be measured at least once every 24-hours on each of the inlet gas types/streams using a stain tube of the appropriate size range or an inline H₂S monitor. The total sulfur content, VOC content, and heating value (Btu/scf) of the	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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natural gas sent to the flare shall be measured at least once annually with an extended gas analysis. The flow meter and flow totalizer shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings. If used, the inline monitor shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings.				
Recordkeeping: The following records shall be kept: • stain tube and/or inline H₂S measurements • annual extended gas analysis • both the hourly and monthly volume (scf) of gas sent to the flare Each month, the permittee shall record and summarize in a table format the following. • H₂S and the total sulfur content • percent VOC content • gas heating value (Btu/scf) • the maximum hourly gas flow rate (scf/hr) that occurred during the month • each hourly gas flow rate (scf/hr) for any hour(s) that exceeded any pph emission limit during the month • the total month's scf of gas sent to the flare	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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- the monthly rolling 12-month total of gas sent to each flare (scf/yr) Each month, the permittee shall record all routine and predictable startups, shutdowns, and scheduled maintenance events and shall also meet the recordkeeping requirements in General Condition B109 of this permit, except the requirement to record the start and end times of SSM events shall not apply. Records of flowmeter, totalizer, and inline monitor certifications, calibrations, documentation of the manufacturer's recommended calibration / maintenance schedule, breakdowns, reasons for the breakdown, and corrective actions taken shall be maintained. Each month, to demonstrate compliance with both the SSM and malfunction emission limits, the permittee shall calculate and summarize the maximum pph emission rate, any pph emission rate exceeding the permitted limits, and the monthly rolling 12-month total ton per year emission rates of NO_x, CO, VOC, SO₂, and H₂S for both SSM and malfunction events, using the following information: - the H₂S content, total sulfur content, VOC content, and the gas heating value (MMBtu/scf) from the most recent H₂S measurements and gas analyses - the emission factors used to				
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calculate NO _x and CO - the maximum hourly gas flow rate (scf/hr) - each hourly gas flow rate (scf/hr) for any hour(s) that exceeded any pph emission limit during the month, including the dates and times of these occurrences - the monthly rolling 12-month total of gas sent to the flare (scf/yr) For each event, the permittee shall record whether the emissions are due to SSM and/or malfunction. If the emissions are due to malfunction, the permittee shall indicate whether the emissions resulting from the event are included in the amount allowed by this permit's malfunction limit or whether the event is reported under 20.2.7 NMAC.				
Reporting: The permittee shall report according to Condition B110.	Navajo complies with these requirements, Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A108 Facility: Hours of Operation A. This facility is authorized for continuous operation. Monitoring, recordkeeping, and reporting are not required to demonstrate compliance with continuous hours of operation.	No requirement.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A109 Facility: Reporting Schedules A. A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The six month reporting periods start on	Navajo submitted the requested monitoring reports as follows: 4/14/2016 10/14/2015	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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September 1st and March 1st of each year.				
A109 Facility: Reporting Schedules B. The Annual Compliance Certification Report is due within 30 days of the end of every 12-month reporting period. The 12-month reporting period starts on September 1st of each year.	Navajo submitted the requested compliance certification report as follows: 09/29/2015	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A109 Facility: Reporting Schedules C. In addition to the reports required by the applicable NSPS, NESHAP and MACT Subparts (including any voluntary programs referencing NSPS, NESHAP, or MACT Subparts) and by the applicable parts of 20.2 NMAC, the reporting required by the Consent Decree shall be submitted to the Department. The reports shall be submitted to the Air Quality Bureau within forty five (45) days of the end of each calendar quarter. If any reports indicate potential non-compliance with the terms of this permit, the Bureau may impose a more frequent reporting time-frame. The Department shall handle any confidential information in accordance with the provisions of 20.2.1.115 NMAC.	The Department has not requested more frequent reporting time-frames.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A109 Facility: Reporting Schedules D. Reporting required by the Consent Decree (not an exhaustive listing) (1) The permittee shall notify the Department's Enforcement Section, Air	Navajo submitted the Annual NOx Control Technology report as follows: 12/31/2015	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Quality Bureau in writing of the annual progress of installation of NO_x Control Technology required by Paragraph 16 of the Consent Decree. The report shall be submitted to the EPA and the NMED on or before December 31st of each calendar year commencing with the year 2002. (CD ¶16.E) (2) No later than forty-five (45) days following the end of an AG Flaring or TG Incident, the permittee shall submit to EPA and the NMED a report that sets forth the items detailed in the Consent Decree. (CD ¶20, CD¶21)				
A110 Facility: Fuel and Fuel Sulfur Requirements (as Required) A. Fuel, Fuel Sulfur, and NSPS J, Ja Sulfur Requirements (See Tables 103.E, H, I, & K, Summary of Applicable Requirements) Requirement: (NSR 0195M35, Condition A110.A and revised) (1) To comply with NSPS Subpart J, NSPS Subpart Ja, and the PSD BACT requirements in Section 106, the permittee	Refinery fuel gas is continuously monitored for H₂S content on a 3-hour rolling average. Excedances are reported on Navajo's Subpart A report.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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shall install, calibrate and maintain a continuous monitoring system (CMS) to continuously measure and record either the hydrogen sulfide (H₂S) in the refinery fuel gas streams being burned in the Heaters and Boilers or the concentration of sulfur dioxide emissions to the atmosphere. (2) All stationary combustion equipment shall be fired with NSPS quality fuel gas with a maximum H₂S content of 0.1 grains/dscf (approx. 162 ppmv), based on a hourly rolling 3-hour average. (3) All stationary combustion equipment shall not combust gas with an annual average sulfur content exceeding 60 ppmv (approx. 0.037 grains) as a daily rolling 365-day average. (4) All stationary combustion equipment shall be affected facilities, as defined in NSPS 40 CFR Part 60, Subparts A and J or Ja, if refinery-produced fuel gas is combusted in the heaters and boilers, and shall comply with all applicable requirements of NSPS Subparts A and J or Ja. (See Table 103.E, Summary of Applicable Requirements)				
Monitoring: (1) The permittee shall install, certify, calibrate, maintain and operate a fuel gas continuous monitoring system (CMS) at	1) CMS has been installed and is certified, calibrated and maintained. 2) CMS annual RATAs were completed as follows: D-0019 Low Pressure Fuel Gas H₂S	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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the fuel gas mix drum outlet in accordance with the requirements of 40 CFR §§ 60.11, 60.13, and Part 60 Appendix A, and the applicable performance specification of 40 CFR Part 60 Appendices B and F. (2) The following CMS shall be certified initially and recertified annually: • D-0019 Low Pressure Fuel Gas H₂S CMS • D-0770 High Pressure Fuel Gas H₂S CMS (3) As required by the EPA-approvable alternative monitoring procedure (AMP), CCR off-gas streams that enter the refinery fuel gas system downstream of the H₂S CMS shall be monitored quarterly for H₂S using gas detector tubes or an equivalent method as follows: (a) CCR stabilizer off gas stream, (b) H₂ recycle gas stream, and c) CCR feed stream.	7/11/2016 D-0770 High Pressure Fuel Gas H₂S 7/11/2016 3) The CCR stabilizer off gas, the H₂ recycle gas and the CCR feed streams are analyzed a minimum of quarterly.			
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subparts A, J, and Ja. (1) Records of the quantity of the refinery fuel gas and the monthly average heating value of the refinery fuel gas. This is used to demonstrate compliance with lb/mmBTU and lb/hr limits shown in Table 106.A. (permit limit) (2) Records of repairs, maintenance, and calibrations performed for the instruments that measure flow or	1) Fuel records are maintained in Pi. 2) Repair, maintenance, and calibration records are maintained by Navajo Instrument and Electrical Department. 3) CCR off-gas stream analysis records are maintained in the Navajo Environmental Department Files (REF.ART.3.J.05.A).	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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concentration for an applicable permit limit shall be kept. Examples include, but are not limited to, CMS, acid gas flow meters, and fuel gas flow meters. (40 CFR 60, Appendix F) (3) Records shall be kept of Alternative Monitoring Plan (AMP) H ₂ S analyses of the CCR off-gas streams that enter the refinery fuel gas system downstream of the fuel gas H ₂ S CMS. (NSPS J or Ja)				
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subparts A, J, and Ja, and Section B110.	Reports required by Subpart A are submitted semiannually. Reports required by Subparts J and Ja, and Section B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A111 Facility: 20.2.36 NMAC A. Facility: 20.2.36 NMAC Requirement: 20.2.36 NMAC (Petroleum Refinery - Sulfur, 11/30/95) applies to the refinery as a whole. Quarterly refinery-wide sulfur balance reports shall be filed in accordance with 20.2.36.113 NMAC. All flares and stacks shall meet the applicable height requirements of 20.2.36.114 NMAC as demonstrated through air dispersion modeling done at the time of unit installation. (NSR 0195M35, Condition A111.A)	Sulfur balance reports were submitted as follows: 11/12/2015 1/12/2016 5/16/2016 & 5/17/2016 Effective February 15, 2016, Navajo Refinery is no longer affected by the NMAC rule. No flares were installed this reporting period.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Quarterly monitoring of refinery-wide sulfur balance.	Sulfur balance reports were submitted as required. Following the end of the period Navajo Refinery is no longer affected by the NMAC rule.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall keep record of a copy of the Facility-Wide Sulfur Balance Report and the actual	Records are maintained in the Navajo Environmental Department Files (REF.ART.12-3.H.01).	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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height of flares and stacks.				
Reporting: The permittee shall report in accordance with 20.2.36.113A NMAC.	Sulfur balance reports were submitted as required. Following the end of the period Navajo Refinery is no longer affected by the NMAC rule.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A112 Facility: 20.2.37 NMAC A. 20.2.37 NMAC Requirement: (NSR 0195M35, Condition A112.A) (1) Section 200.A (Mercaptans) and section 200.B (Hydrogen Sulfide) apply to mercaptan and H ₂ S emissions from the refinery. Section 200.C applies to FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404, and requires an alarm in good working order to signal non-combustion of the gas. (2) Section 201.A (CO), applies to the refinery's FCC regenerator stack. The owner or operator of an existing petroleum processing facility shall not permit, cause, suffer or allow carbon monoxide emissions to the atmosphere from a catalyst cracking recirculation or regeneration unit in excess of 20,000 ppm by volume in the undiluted effluent gas stream or streams. (3) Section 202.C(1) (PM), The owner or operator of a new petroleum processing facility shall not permit, cause, suffer or allow particulate matter emissions to the atmosphere from the catalytic cracking regenerator vessel in excess of 1.0 Kg/1000 Kg (1.0 lb/1000 lb) of coke	1) All flares have alarms indicating loss of flame that are in good working order. 2) The FCC catalyst regenerator exhaust is continuously monitored for CO. 3) The catalytic cracking regenerator is tested annually for PM. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9. 4) There are no process vents to the atmosphere, so the refinery is not expected to emit ammonia. Any trace ammonia emissions are expected to comply with the 25-ppm limit. 5) Navajo continues to comply with the applicable requirements of NSPS Subpart QQQ at refinery oil/water separators. The oil/water separator is inspected at least semi-annually, and the carbon vapor control is tested at least monthly. 6) Blowdowns are accomplished by venting to flares that are designed to be operated smokelessly.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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burnoff or visible emissions of thirty percent (30%) opacity or greater except for one six-minute average opacity reading in any one-hour period.

(4) Section 203 (Ammonia, undiluted emissions ≤ 25 ppmv) applies to all emission points of the refinery. The owner or operator of a petroleum processing facility shall not permit, cause, suffer or allow ammonia emissions to the atmosphere in excess of 25 ppm by volume in the undiluted effluent gas stream or streams.

(5) Section 204 (Hydrocarbon Separation Facility) applies to all oil/water separators at the refinery. Compliance with this condition is met by complying with the applicable NSPS Subpart QQQ requirements.

(6) Section 205 (Facilities - Storage - Handling - Pumping - Blowdown System) applies to certain of the following: storage tanks for organic compounds, loading and unloading of organic compounds, seals on pumps and compressors, and disposal (flaring) of hydrocarbon gases. The permittee shall not permit, cause, suffer or allow the operation of a blowdown system without disposing of the gases in a manner which will minimize hydrocarbon emission to the atmosphere. If combustion is the means of disposal, it shall be by: smokeless flare; or any other method that is equally effective to achieve complete

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combustion. (20.2.37.205.E NMAC)				
Monitoring: (1) For Units FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404: The permittee shall install and maintain a flare pilot flame monitoring system. (20.2.37.200.A.2 NMAC) (2) A CO CMS has been installed to monitoring the emissions from the FCC. (3) The annual EPA Method 9 Opacity Test and annual Stack test on Unit FCC (lb/hr PM emissions) and the calculated Coke burn rate will be used for the annual determination of pounds of PM per 1000 pounds of Coke burned. (4) None (5) No additional monitoring since compliance is met by complying with the applicable NSPS Subpart QQQ requirements. See other conditions of this permit for applicable NSPS or MACT requirements. (6) Compliance is demonstrated through NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns.	1) All flares have alarms indicating loss of flame that are in good working order. 2) The FCC catalyst regenerator exhaust is continuously monitored for CO. 3) The catalytic cracking regenerator is tested annually for PM. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9. 6) Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: (1) Pilot flame monitoring records (2) CO CMS measurements	1) and 2) Records are maintained in Pi. 3), 5) and 6) Stack test, MACT, and NSPS records are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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(3) Copy of annual coke burn rate determination, stack test report, and opacity test report (4) None (5) Applicable NSPS Subpart QQQ requirements (6) Applicable NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns requirements				
Reporting: The permittee shall report in accordance with applicable NSPS or MACT requirements and Section B110.	NSPS A, GGG, GGGa and MACT CC reports are submitted semiannually.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A113 Facility: 20.2.38 NMAC A. 20.2.38 NMAC Requirement: 20.2.38 NMAC (Hydrocarbon Storage Facilities, 11/30/95) applies to the refinery as follows: 1. Section 109 (Tank Storage Associated with Petroleum Production or Processing Facility [Sour Hydrocarbon Liquids]) applies to the loading and storing of hydrocarbons containing H₂S. 2. Section 110 (Tank Battery or Storage Facility - Within Municipality [Sour Hydrocarbon Liquids]) applies to certain tanks storing sour hydrocarbon liquids whose vapors contain ≥ 24 ppm H₂S.	1) The Artesia Refinery includes storage vessels that store hydrocarbons containing hydrogen sulfide. The vessels comply with the requirements of 20.2.38.109 by using submerged fill. 2) and 3) The vessels comply with the requirements of 20.2.38.110 and 113 by using internal or external floating roofs with the required seals.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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3. Section 113 (New Tank Battery and the Pecos-Permian Interstate Air Quality Control Region [Sour Hydrocarbon Liquids]) applies to certain tanks storing sour hydrocarbon liquids whose vapors contain ≥ 24 ppm H ₂ S. (NSR 0195M35, Condition A113.A)				
Monitoring: 1. None 2. and 3. Demonstrated through NSPS K, Ka, Kb, and MACT CC floating roof seal inspection.	2) and 3) Navajo Inspection Department performs seal inspections and maintains those records.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: 1. Records of Tank design showing inlet piping connections. 2. and 3. No additional requirements other than applicable requirements of NSPS and MACT.	1) Records of tank designs are maintained in the Navajo Engineering Library. Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A118 Facility: MACT Subpart UUU A. 40 CFR 63, Subpart UUU FCC, FUG-70-CCR, SRUs 1, 2, and 3 Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart UUU, National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units, for all affected sources shown in Tables 103H&I attached.	For the FCC, Navajo monitors and records the daily average coke burn rate and of the continuously monitored CO emissions. For the CCR, Navajo monitors and records the weekly average ChlorSorb catalyst inlet and outlet chloride content, the ChlorSorb inlet and outlet temperatures, and the CCR firebox temperature. For the SRUs, Navajo monitors and records the SO ₂ concentration from the tail gas incinerators.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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(63.1560 and 63.1570).				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart UUU.	For the FCC, Navajo monitors and records the daily average coke burn rate and of the continuously monitored CO emissions. For the CCR, Navajo monitors and records the weekly average ChlorSorb catalyst inlet and outlet chloride content, the ChlorSorb inlet and outlet temperatures, and the CCR firebox temperature. For the SRUs, Navajo monitors and records the SO2 concentration from the tail gas incinerators.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart UUU.	Process records are maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart UUU.	Reports required by Subpart UUU were submitted semiannually as follows: 1/28/2016 7/28/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A119 40 CFR 61 Subpart FF. National Emission Standard for Benzene Waste Operations A. 40 CFR 61 Subpart FF, National Emission Standard for Benzene Waste Operations (Units subject in Table 103.C & G) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 61, Subpart FF, National Emission Standard for Benzene Waste Operations for the affected sources in Tables 103.C, G.	The refinery complies with the applicable requirements of NESHAP Subpart FF. Because the refinery's total annual benzene (TAB) quantity is less than 10 Mg/yr, none of the standards in this regulation apply. Navajo submitted the annual TAB report as follows: 04/07/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 61, Subpart FF.	The refinery complies with the applicable requirements of NESHAP Subpart FF. Because the refinery's total annual benzene (TAB) quantity is less than 10 Mg/yr, none of the standards in this	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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	regulation apply. Navajo submitted the annual TAB report as follows: 04/07/2016			
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 61.356.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 61.357.	Navajo submitted the annual TAB report. 04/07/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines A. Maintenance and Repair Monitoring (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901; Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901) Requirement: These units are subject to Title V since they are subject to NSPS and/or MACT requirements. No emission limits were established since their emissions are small. The permittee shall ensure these units are properly maintained and repaired.	Unit M-8010 was installed 11/04/2013. The engine was operated a total 2.5 hours during the reporting period.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events: (1) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period. (2) Unscheduled repairs that require a unit	Unit M-8010 operating hours are monitored	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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to be taken out of service for more than two hours in any twenty-four hour period.				
Recordkeeping: The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.	Unit M-8010 is equipped with a non-resettable run-time meter. Navajo keeps quarterly rolling annual total hours on file.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines B. 40 CFR 63, Subpart ZZZZ (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901) (Units subject in Table 103.J) Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 63, Subpart ZZZZ and the permittee shall comply with all applicable requirements of Subpart A and Subpart ZZZZ.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart A and Subpart ZZZZ.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart ZZZZ, including but not limited to 63.6655 and 63.10.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart A and ZZZZ, including but not limited to 63.6645, 63.6650, 63.9, and 63.10.	Reports required by Subpart ZZZZ were submitted semiannually as follows: 1/29/2016 7/28/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines C. 40 CFR 60, Subpart IIII (Diesel Engines subject in Table 103.J Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 60, Subparts A and IIII and shall comply with the notification requirements in Subpart A and the specific requirements of Subpart IIII.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4211.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with all applicable reporting requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks A. NSPS Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which	Navajo continues to comply with the applicable requirements of NSPS Subpart K, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations previously submitted reports. External	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 (Tanks subject in Table 103.C) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & K for the affected sources in Table 103.C.	and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.			
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart K.	Navajo continues to comply with the applicable requirements of NSPS Subpart K, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart K.	External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart K.	Navajo submits notifications of seal inspections to the Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks B. NSPS Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 (Tanks subject in Table 103.C)	Navajo continues to comply with the applicable requirements of NSPS Subpart Ka, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Ka for the affected sources in Table <u>103.C</u> .				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ka.	Navajo continues to comply with the applicable requirements of NSPS Subpart Ka, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ka.	External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ka.	Navajo submits notifications of seal inspections to the Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks C. NSPS Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984" (Tanks subject in Table <u>103.C</u>) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Kb for the affected	Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the processes shown in Table 103 B, C, D, G, except for deviations noted in semi-annual reports. Fugitive components subject to these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the affected storage tanks, except for inspections listed as deviations in this report. External and	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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sources in Table 103.C.	internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The loading rack subject to portions of MACT Subpart R incorporated by reference into MACT CC is equipped with a carbon adsorption system monitored by a CMS.			
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Kb.	Fugitive components subject to these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. The loading rack subject to portions of MACT Subpart R incorporated by reference into MACT CC is equipped with a carbon adsorption system monitored by a CMS.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Kb.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Kb.	Navajo submitted Subpart CC reports semiannually as follows: 2/18/2016 8/29/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks D. MACT Subpart CC, “National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries” (Tanks subject in Table 103.C)	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, “National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries” for all affected sources shown in Table 103.C attached.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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(63.640).				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted Subpart CC reports semiannually as follows: 2/18/2016 8/29/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks E. Tank Throughput, Temperature, and VOC and H ₂ S Limits (Units shown in Tables 106.B & C) Requirement: Compliance with the allowable throughput limits and emission limits in Table 106.D & E shall be demonstrated by not exceeding the monthly rolling 12-month total throughput to the unit(s) of gallons per year (barrels/year) shown in Table 106.D and not exceeding the allowable vapor pressure listed in Tables 106.B & C.	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall monitor the monthly total throughput, maximum temperature once per month and the vapor pressure of each tank.	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall record the monthly total throughput of	Navajo complies through Pi data.	☒ Continuous	☒ Yes	☐ Yes

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liquids and the vapor pressure of each tank. Each month, during the first 12 months of monitoring, the permittee shall record the cumulative total liquid throughput and vapor pressure and after the first 12 months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total liquid throughput and the vapor pressure of each tank. The permittee has calculated the VOCs and H₂S annually based on the 12-month total. Tank breathing and working emissions were calculated using the USEPA Tanks program Version 4.0.9.d or more current. Emission rates computed using the same parameters, but with a different Department approved algorithm that exceed these values will not be deemed non-compliance with this permit. Records shall also be maintained in accordance with Section B109.		☒ Intermittent	☐ No	☒ No
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A204 Heaters/Boilers A. Operational Inspection (All heaters/boilers in Tables 103.E & 104.A) Requirement: Compliance with the allowable emission limits in Table 106.A shall be demonstrated by performing periodic inspections to ensure proper operations.	Testing was performed as follows: H-0019 01/07/2016 H-0020 01/07/2016 H-0362 03/08/2016 H-0363 03/08/2016 H-0364 03/08/2016 H-2421 08/16/2016 H-3402 03/09/2016 H-3403 03/10/2016 All heaters were within allowable emission limits.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct annual operational inspections to determine that the heater(s)/boiler(s) are operating properly. The operational inspections shall include operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the heater/boiler manufacturer, and indications based on operational experience with the/these unit(s).	Testing was performed as follows: H-0019 01/07/2016 H-0020 01/07/2016 H-0362 03/08/2016 H-0363 03/08/2016 H-0364 03/08/2016 H-2421 08/16/2016 H-3402 03/09/2016 H-3403 03/10/2016 All heaters were within allowable emission limits.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the heater(s)/boiler(s) into compliance. The permittee shall maintain records in accordance with Section B109.	Test reports are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall report in accordance with Section B110. Within ninety (90) days of permit issuance, the permittee shall submit for Department approval a procedure which the permittee will use to carry out the operational inspections. The permittee may at any time submit revisions for Department approval.	All testing reports were submitted to the Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers B. Periodic Emissions Tests (Units Heaters H-0019, H-0020, H-0362, H-0363, H-0364, H-2421, H-3402, and H-3403) Requirement: Compliance with allowable emission limits in Table 106.A shall be demonstrated by performing periodic emissions tests. (NSR 0195M35, Condition A204.A, revived)	All testing reports were submitted to the Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct annual periodic portable analyzer emission tests or EPA Reference Method Tests for NO_x and CO. Test results that demonstrate compliance with the CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits. Section B108 General Monitoring Requirements apply to this condition. The permittee shall meet the testing requirements in Section B111.	Navajo complies with the requirements of Section B111.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Recordkeeping: Records of periodic emission tests shall include the flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure NO_x, CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results. Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.	Navajo complies with the requirements of Section B103, B110, and B111.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for NO_x and CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.	Navajo complies with the requirements of Section B103, B110, and B111. All testing reports were submitted to the Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers C. Summary of Compliance Methods for Heaters and Boilers for Table 106.A, 20.2.33 NMAC, 20.2.37 NMAC (Boilers and Heaters in Tables 103.E and 104.A) Requirement: (NSR 0195M35,	Navajo complies with these requirements, except for deviations previously reported or identified at the end of this report.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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Condition A204.B) (1) Demonstrate compliance with Table 106.A Allowable Emissions. (2) 20.2.33 NMAC (Gas Burning Equipment – Nitrogen Dioxide, 10/31/02) applies to existing and new gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year. It applies to process heaters identified in Tables 103.E and 104.A. These units shall be equipped with burners emitting less than 0.2 lb NO_x per MM Btu. Compliance with 20.2.33 NMAC is demonstrated by compliance with the NO_x lb per MM Btu limits in Table A106.A.				
Monitoring: (1) The permittee shall monitor the fuel usage of the all boilers and heaters. The fuel usage shall be monitored for specific heaters and boilers subject to 20.2.33 NMAC. (2) For specific heaters and boilers subject to 20.2.33 NMAC, the permittee shall collect and analyze samples of the refinery fuel gas at least once per week. The refinery fuel gas analysis shall include the composition of the refinery fuel gas, the gross heating value, and the net heating value. (3) See Condition A110.A for H₂S monitoring requirements. (4) All process heaters and boilers shall fire only refinery gas in accordance with	1) Fuel use measured by Pi. 2) Refinery fuel gas is analyzed at least once per week. 3) Refer to response for Section A100.A 4) No combustion sources fire only purchased gas. 5) The following combustion sources have CMS that are recertified annually as follows: B-0007 07/13/2016 B-0008 07/13/2016 & 07/14/2016 B-0009 10/07/2015 (Initial Compliance Test) H-9851 07/14/2016 H-2501 03/10/2016	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Application, Section 2, Table 2-J. (5) For those combustion sources required to have a continuous monitoring system (CMS) (listed in (a) below), the permittee shall install, certify, calibrate, maintain, and operate the CMS for each required pollutant in accordance with the applicable requirements of 40 CFR 60 or 63. The hourly average CMS data, the refinery fuel gas usage data, and the refinery fuel gas composition data shall be used to estimate the actual emission rates. (a) The following CMS shall be recertified annually: • Boiler B-0007 NO_x and O₂ CMS • Boiler B-0008 NO_x and O₂ CMS • Boiler B-0009 NO_x and O₂ and CO₂ CMS • H-9851 NO_x O₂ CMS • H-2501 NO_x O₂ CMS (6) For those combustion sources required to conduct periodic stack exhaust testing as stated in Condition A204.B, the test reports shall be used to demonstrate compliance with the NO_x, CO, and VOC limits in Table 106.A. (7) For those units and pollutants that are not required to have a CMS or a periodic stack test, (Units H-009, H-0011, H-0018, H-0028, H-0030, H-0040, H-0303, H-0312, H-0352, H-0353, H-0354, H-0355, H-0421, H-0464, H-0473, H-0600,				
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H-0601, H-8801, H-8802, and H-3101) the permit application emission factor, the fuel usage, and the refinery fuel gas analysis shall be used to calculate the emission rates of NO_x, CO, VOC, and PM. (8) Compliance with the particulate emission limitation set forth in 20.2.37.202.A NMAC shall be determined as specified in 20.2.37.202.D(3) NMAC. Combustion of only gaseous fuel has been approved by the Department as the compliance method under 20.2.37.202.D(3) NMAC.				
Recordkeeping: The permittee shall maintain the following records: (1) By March 31, the annual fuel usage for all boilers and heaters for the previous calendar year. (2) By March 31, the average fuel composition and heating value for all boilers and heaters for the previous calendar year. (3) For those units required to have a CMS (B-0007, B-0008, B-0009, H-9851 and H-2501), the CMS hourly average data. (4) For those units required to conduct periodic stack exhaust testing, the periodic test report. (5) For all boilers and heaters, a summary spreadsheet shall be maintained comparing the actual annual emissions with the allowable emission limits expressed in	1) Fuel usage records are maintained in Pi. 2) Fuel composition records are maintained in Pi. 3) CMS data is maintained on Pi. 4) Test reports are maintained by Navajo Environmental Department. 5) The summary spreadsheet is included in the Emission Inventory.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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tons per year and lb/MMBtu using the appropriate method of compliance demonstration. This spreadsheet shall be updated by March 31 of each year for the previous calendar year.				
Reporting: The permittee shall report in accordance with Sections B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers D. Consent Decree NO _x Emission Limits for Boilers B-0007, B-0008, and B-0009 (new as of 2013) Requirement: (NSR 0195M35, Condition A204.C) (1) In accordance with the Consent Decree lodged December 20, 2001, NO _x emissions from boilers B-0007 (no later than December 31, 2002), B-0008 (no later than December 31, 2003), and B-0009 (new as of 2013) shall not exceed the limit in Table 106.A during any hourly rolling 3-hour period. Demonstration of compliance with the NO _x limit for B-0007, B-0008, and B-0009 shall be established by averaging the CMS Data over any 3-hour period and comparing the average concentration to the parametric limit of ≤ 42.1 ppm NO _x , corrected to 6.1% O ₂ as determined by the CMS. (CD¶16.D) This also satisfies the requirement in 20.2.33.108.A NMAC that NO _x emissions	1) No heaters or boilers subject to this requirement. 2) Initial performance testing completed. 3) NO _x is measured in H-0601 weekly using a portable analyzer.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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shall not exceed 0.2 lb/MMBTU. (2) Navajo is authorized to operate all three boilers (B-0007, B-0008, and B-0009) simultaneously as needed.				
Monitoring: For the Controlled Boilers (B-0007, B-0008) as listed in the Consent Decree and B-0009 (new as of 2013), continuous compliance with their respective NO _x permit emissions limits shall be demonstrated by monitoring as follows: (CD¶16.C) (1) For boilers (B-0007, B-0008, and B-0009) with a heat input capacity greater than 150 MMBTU/hr of HHV, the permittee shall install or continue to operate CMS to measure NO _x and O ₂ . Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specification test of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable; (CD¶16.C.i)	1) No heaters or boilers subject to this requirement. 2) Initial performance testing completed. 3) NO _x is measured in H-0601 weekly using a portable analyzer.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall keep records of the CMS recertification's monitored in Condition A204.B, Summary of Compliance.	Navajo complies with A204.B.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with A204.B.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers E. NO _x Monitoring and Testing for Controlled Heaters Subject to the Consent Decree (Units H-0020, H-0352, H-0353, H-0354, H-0600, and H-0601) Requirement: For the Controlled Heaters as listed in the Consent Decree, continuous compliance with all NO _x emissions limits shall be demonstrated by monitoring as follows. (CD¶16.C) (NSR 0195M35, Condition A204.D)	Refer to the Monitoring section below.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: (1) For heaters with a heat input capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV), Navajo shall (a) install or continue to operate CMS to measure NO _x and O ₂ by no later than the date of the installation of the applicable NO _x Control Technology on the heater or boiler; or (b) submit for EPA approval, by no later than 60 days after the date of installation of the applicable NO _x Control Technology on the heater or boiler, a proposal for monitoring based on operating parameters, including but not limited to, firebox	1) H-9851 is equipped with NO _x and O ₂ CMS that is certified, calibrated, maintained and operated in accordance with the referenced requirements. 2) H-2501 is equipped with NO _x and O ₂ CMS. Navajo discovered that while the operating parameters of firebox temperature and combustion O ₂ were monitored for Heaters H-8801/8802, these parameters have not been used as a means of monitoring performance. 3) Referenced heaters were initially tested and are tested annually. H-0601 is monitored weekly using a handheld portable analyzer.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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temperature, air preheat temperature, heat input rate, and combustion O₂. Navajo shall evaluate the necessity of using firebox or bridgewall temperatures and additional operating parameters and agrees to use such parameters as a means of monitoring performance where Navajo and EPA mutually-agree to their effectiveness. (CD¶16.C.ii). As of January 23, 2014 (notarized date of application), there are no heaters or boilers at the Artesia Refinery with a capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV) subject to Monitoring requirement (1). (2) For heaters with a heat input capacity of equal to or less than 100 MMBTU/hr of HHV, the permittee shall conduct an initial performance tests for NO_x. The results of these tests shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. (CD¶16.C.iii). This condition applies to the following heaters: • Heaters H-0352, H-0353, and H-0354 • Heater H-0020 • Heaters H-0600 and H-0601 The permittee has completed all of the initial performance tests.				
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(3) For heater H-0601 compliance shall be demonstrated by continuously monitoring stack oxygen (O ₂) to maintain a 3-hour average below 6.0 vol%. As a further check of compliance, Navajo shall monitor stack NO _x at least twice a month using a portable analyzer to assure that the measured NO _x value does not exceed the compliance threshold of 38 ppmv NO _x . (CD§16.C.iii)				
Recordkeeping: (1) The permittee shall keep records of the Fuel firing rates and Sulfur limits monitored for Condition A110.A. (2) The permittee shall keep records of the initial performance tests. (3) The permittee shall keep records of the stack oxygen monitoring and the portable analyzer tests.	1) Fuel firing rate records are maintained in Pi. 2) and 3) Test records are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110. Condition B.111.D(7) does not apply to portable analyzer tests.	Reports required by B110 are submitted as applicable.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers F. NO _x Monitoring and Testing for Heaters permitted after the Consent Decree (Units Heaters H-0019, H-0362, H-0363, H-0364, H-2421, H-3402, H-3403, H-2501, H-8801/8802, and H-9851) Requirement: For the Heaters permitted after the Consent Decree, continuous compliance with their respective NO _x	Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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permit emissions limits in Table 106.A shall be demonstrated by monitoring as follows. (NSR 0195M35, Condition A204.E)				
Monitoring: (1) For heaters with a heat input capacity greater than 150 MM Btu/hr (LHV Basis), the permittee shall install and operate CMS to measure NO_x and O₂ by the startup date of each heater. Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specifications of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable. Condition A204.F(1) applies to heater H-9851. (2) For heaters with a heat input capacity of equal to or less than 150 MM Btu/hr (LHV) but greater than 100 MM Btu/hr (LHV), Navajo shall: (a) install and operate CMS to measure NO_x and O₂ by the startup date of each heater; or (b) submit to the Permit Program Manager for NMED approval, by no later than 90 days after the startup date of each heater, a proposal for	1), 2), 3), and 4) Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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monitoring based on operating parameters. Operating parameters to consider include, but are not limited to, firebox temperature, air pre-heat temperature, heat input rate, and combustion O₂. Navajo agrees to use such parameters as a means of monitoring performance. Condition A204.F(2) applies to heaters H-2501 and H-8801/8802 (3) For heaters with a heat input capacity of equal to or less than 100 MM Btu/hr (LHV basis), the permittee shall conduct an initial performance test by no later than 180 days after the startup date. The results of this test shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. This condition applies to the following heaters: • Heaters H-0362, H-0363, H-0364, and H-2421 • Heater H-0019 • Heaters H-3402 (AMP approved by EPA, see (4)) , initial performance test completed on July 10, 2013 • Heater H-3403, initial performance test completed on April 30, 2013 (4) US EPA has approved an Alternative				
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Monitoring Plan (AMP) for Unit H-3402 for utilizing the oxygen monitor on the H-3402 Unit 34 Hydrocracker Reboiler 1 as a parametric means for demonstrating compliance with NSPS Ja, NOx monitoring via a CMS. In accordance with the AMP, the permittee shall accomplish the following: (a) Install flow indication on the fuel line to provide historical data of the fuel to the Mild Hydrocracker (Unit 34) by January 1st, 2015. (b) Monitor the process historical data of the HEP purchased natural gas pressure, and the high pressure fuel balance drum (D-0770). (c) Upgrade the existing the Mild Hydrocracker (Unit 34) Reboiler Heater (H-3402) oxygen monitor to perform daily calibrations as required in 40 CFR60.13(d)(1). (Note that the sample placement does not conform to CMS requirements for process reasons). (d) Conduct biennial performance tests according to the requirements in 40CFR 60.104a(i). (e) Establish a maximum or curve excess O2 operating limit – (MOPV) as required under 40 CFR60.107a(c)(6) utilizing the existing monitor. (f) Include Reboiler Heater (H-3402)				
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hours of refinery fuel gas usage and any deviations during such time as required by 40 CFR 60.7 for periodic reporting.				
Recordkeeping: (1) The permittee shall keep records of the monitoring proposals submitted to the Permit Program Manager for approval and whether the submittal was approved. (2) The permittee shall keep records of the CMS data, calibration, and recertification's monitored in Condition A204.A, Summary of Compliance. (3) The permittee shall keep records of the performance tests. (4) The permittee shall keep records of the implementation of the AMP and all required monitoring specified in the AMP.	Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as applicable.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers G. NSPS Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (Boilers and heater subject in Table 103.E) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Db (NO _x -60.44b, SO ₂ -60.42b, & PM-60.43b) for the	Heater H-2501 and Boilers B-0007, B-0008, and B-0009 each have a NO _x CEMS as required by NSPS Subpart Db.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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affected sources in Table 103.E.				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.48b, Subpart Db.	Heater H-2501 and Boilers B-0007, B-0008, and B-0009 each have a NOx CEMS as required by NSPS Subpart Db.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.49b, Subpart Db.	NOx records are maintained in Pi. Test records are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.49b, Subpart Db.	Subpart Db reporting is in the Navajo Subpart A reports.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.45b and 60.46b.	Navajo complies with the requirements of the Compliance Testing.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers H. NSPS Subpart Dc, Standards of Performance for <u>Small Industrial-Commercial - Institutional</u> Steam Generating Units (Boilers and heater subject in Table 103.E.) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Dc (NOx-60.44c, SO ₂ -60.42c, & PM-60.43c) for the affected sources in Table 103.E.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.47c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.48c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.48c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.44c and 60.45c.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers I. NSPS Subpart J, Standards of Performance for Petroleum Refineries (Boilers and heater subject in Table 103.E) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & J for the affected sources in Table 103.E.	Navajo continues to comply with the applicable monitoring requirements of NSPS Subparts J and Ja as applicable to the affected heaters, boilers, sulfur recovery units, and the FCC shown in Table 103E. The refinery fuel gas is continuously monitored for H₂S content on a 3-hour rolling average basis. The flares met the minimum heating value, tip velocity, and visible requirements as documented by the compliance testing detailed in previous responses. The two sulfur recovery unit tail gas incinerators are continuously monitored for SO₂ content, corrected to 0% O₂, on a 12-hour rolling average basis. The FCCU Catalyst Regenerator Scrubber exhaust is continuously monitored for SO₂ and CO. PM is monitored annually. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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	continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9.			
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart J.	All of the continuous monitors are operated, maintained, and certified as required.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart J.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart J.	Reports required by Subpart J and A are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A204 Heaters/Boilers J. NSPS Subpart Ja, Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007 (Boilers and heater subject in Table 103.E) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Ja for the affected sources in Table 103.E.	Navajo continues to comply with the applicable monitoring requirements of NSPS Subparts J and Ja as applicable to the affected heaters, boilers, sulfur recovery units, and the FCC shown in Table 103E, except for deviations included in this report. The refinery fuel gas is continuously monitored for H2S content on a 3-hour rolling average basis. The flares met the minimum heating value, tip velocity, and visible requirements as documented by the compliance testing detailed in previous responses. The two sulfur recovery unit tail gas incinerators are continuously monitored for SO2 content, corrected to 0% O2, on a 12-hour rolling average basis. The FCCU Catalyst Regenerator Scrubber exhaust is continuously monitored for SO2 and CO. PM is monitored annually. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ja.	All of the continuous monitors are operated, maintained, and certified as required.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ja.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ja.	Reports required by Subpart Ja are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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A204 Heaters/Boilers K. BACT NO_x Limit, Continuous Monitoring System (CMS) (Unit B-0009) Requirement: The permittee shall comply with the allowable emission limits in Table 106.A and Condition A106.E that represent NO _x BACT limits for the BACT requirements. (NSR 0195M35, Condition A204.I and revised)	Navajo complies with the BACT requirements for B-0009, except for deviations previously reported or identified at the end of this report. .	☒ Continuous ☐ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: (1) The Permittee shall comply with the CMS monitoring as detailed in Condition A204.D. (2) The permittee shall conduct an EPA Method test within six (6) months of permit issuance using EPA reference test methods in 40 CFR 60 for NO _x and O ₂ and CO ₂ . Data from the CMS RATA testing may be used to satisfy this testing requirement.	B-0009 went into service on 4/14/2015. The initial RATA compliance test was completed on 11/06/2015, except for deviations previously reported or identified at the end of this report. .	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: (1) The permittee shall keep records of the CMS initial calibration and recertification monitored in Condition A204.B, Summary of Compliance. (2) Records of EPA Methods tests shall be maintained for the Boiler.	Navajo complies with A204.B. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: (1) The permittee shall report in accordance with Section B110, to include	Navajo complies with B110. The initial compliance test was completed on 11/06/2015, except for deviations previously reported or identified at the end of this report. .	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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the CMS initial calibration and recertification. (2) The permittee shall summarize in tabular form the results of the EPA Methods tests for NO _x and O ₂ and CO ₂ , specifying the emissions rates in pounds per hour and lb/MMBtu. The table shall include the average concentration of all relevant pollutant species.				
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A204 Heaters/Boilers L. MACT Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters (Boilers and heater subject in Table 103.E) Requirement: The units are subject to 40 CFR 63, Subpart DDDDD and the permittee shall comply with the applicable requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Navajo performs the annual tune up required by MACT Subpart DDDDD published 1/31/2013.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Navajo performs the annual tune up required by MACT Subpart DDDDD published 1/31/2013.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Subpart DDDDD reports were submitted semi-annually as follows: 01/28/2016 07/28/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers M. EPA Methods Test (Unit B-0009) Requirement: Compliance with CO BACT Limit and allowable emission limits in Table 106.A shall be demonstrated by emissions tests ensuring the unit is operating correctly and within desired	Navajo complies with A204.K. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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parameters. (NSR 0195M35, Condition A204.K and revised)				
Monitoring: The permittee shall conduct an EPA Method test no later than 180 days after permit issuance using EPA reference test methods in 40 CFR 60. Emission testing is required for CO. Test results that demonstrate compliance with the CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits.	Navajo complies with A204.B. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: Records of EPA Methods tests shall be maintained for the Boiler.	Navajo complies with A204.B. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the requirements of Section B111.D and summarize in tabular form the results of the EPA Methods test for CO, specifying the emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species.	Reports required by B111.D are submitted as applicable.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers N. Verification of Energy Efficiency BACT Control Requirements (Unit B-0009) Requirement: The permittee shall comply with the allowable emission limits and the following BACT requirements. (NSR 0195M35, Condition A204.L and revised) 1. Operation and Maintenance (BACT #6):	Navajo complies with these conditions. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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a. Periodic Boiler Tuning – The boiler shall be tuned annually to maintain optimal thermal efficiency. b. Periodic Boiler Inspection and Repair for air leakage – The boiler shall be inspected annually to maintain optimal thermal efficiency. c. Periodic Boiler Inspection and Cleaning for tube fouling – The boiler shall be inspected annually and necessary cleaning performed to prevent tube fouling. 2. Next Generation Ultra-low-NO_x high efficiency burners (NGULNB) (#5) shall be installed in the boiler design. 3. Flue gas economizer (BACT #2) – A heat exchanger shall be installed to recover heat from the exhaust gas to preheat incoming boiler feedwater to attain industry standard performance (IMO) for thermal efficiency. 4. Boiler insulation (BACT #4) – The boiler shall be designed and installed with boiler insulation to an optimum insulation thickness and material to achieve maximum energy efficiency. The OMP shall include the insulation				
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design and maintenance schedule. 5. Oxygen Trim Control (BACT #7) – An Oxygen Trim Control system shall be designed and installed on the boiler to monitor oxygen concentration in the flue gas, and the inlet air flow is adjusted to maximize thermal efficiency. 6. Boiler blowdown minimization using manual analysis (BACT #3) – The Operation and Maintenance Plan (OMP) shall include methods and procedures to minimize blowdowns from the boiler to keep emissions at a minimum. 7. Condensate recovery (BACT #8): Condensate shall be recovered as represented in the application to achieve maximum energy efficiency. Condensate recovery shall be maximized through annual steam trap inspections and repairs.				
Monitoring: The Permittee shall develop an Operation and Maintenance Plan (OMP) to include at least the requirements listed above within 12 months of commencement of operations. The Permittee shall review the OMP annually to ensure it's effectiveness in meeting the requirements above and recommend changes.	Navajo complies with these conditions. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: (1) Records demonstrating compliance with the energy efficiency requirement	Navajo complies with these conditions.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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shall be recorded and summarized in the OMP. (2) The Permittee shall maintain a copy of the OMP onsite and available for inspection.				
Reporting: (1) The permittee shall notify the Department when the OMP has been prepared and available for review. (2) The permittee shall report in the semi-annual report a summary of actions covered in accordance with the OMP, and in accordance with Section B110.	Navajo complies with these conditions. Reports required by B110 are submitted as applicable.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers O. Periodic Emissions Tests (Unit B-009, CO BACT Limit) Requirement: Compliance with the CO BACT Limit and allowable emission limits in Table <u>106.A</u> shall be demonstrated by performing periodic emissions tests.	Navajo complies with these conditions. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct periodic portable analyzer emission tests or EPA Reference Method Tests for CO at the intervals in the following schedule: First Test --- in accordance with the schedule in Section B111.A(2). Second Test --six (6) months after the first test is completed. All subsequent testing shall be done annually. Section B108 General Monitoring Requirements apply to this condition.	Navajo complies with these conditions. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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The permittee shall meet the testing requirements in Section B111.				
Recordkeeping: Records of periodic emission tests shall include the boiler fuel flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results. Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.	Navajo complies with these conditions. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.	Reports required by B109, B110, and B111 are submitted as applicable.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A206 Flares A. FL-0400, FL-0403 Requirement: (NSR 0195M35, Condition A206.A) (1) An alarm system in good working order shall be connected to Flare FL-0403 which will signal non-combustion of the gas. (2) The acid gas flow meter for flare FL-0400 or FL-0403 shall be operated and calibrated at a frequency and by the procedure specified by the manufacturer. A chart recorder or data logger (electronic storage) shall continuously record the amount of gas measured by the flow meter.	1) FL-0403 (ALKY/CCR) is equipped with a flare alarm. 2) The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 is monitored during acid gas flaring by a flow meter. No acid gas flaring has occurred since September 5, 2006.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 as required under A105.B shall be monitored during flaring by a flow meter. The flow meter shall be operated continuously 24 hours per day, 365 days per year except for periods of flow meter maintenance or repair. The upper range of the flow meter shall be sufficient to record the highest expected flow rate of fuel gas sent to flare. The reading of this flow meter and the flow meter to measure acid gas flow as required under Condition A105.B shall be	The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 is monitored during acid gas flaring by a flow meter.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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used to determine compliance with emission limits at A106.C.				
Recordkeeping: (1) Records of all periods of operation during which the flare pilot flame is absent as included in the MACT subpart CC semi-annual reports. (2) Records of the quantity of supplemental fuel used during each acid gas flaring incident to provide supplemental heat to flare FL-0400 or flare FL-0403. (3) The permittee shall maintain records from the flow meter of the amount of gas sent to the flare.	1) Flare pilot outages are included in the MACT CC semiannual reports dated as follows: 02/18/2016 08/29/2016 1) and 2) Records of supplemental fuel use and flare pilot flame are maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	1) Flare pilot outages are included in the MACT CC semiannual reports dated as follows: 02/18/2016 08/29/2016	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A206 Flares B. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Flares listed in Table <u>103.K</u>) Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in <u>Tables 103.B.</u> (63.640).	Navajo complies with all the requirements of MACT CC as shown for all affected sources in table 103.B. Navajo uses a third party LDAR contractor, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	Navajo complies with all the requirements of MACT CC as shown for all affected sources in table 103.B. Navajo uses a third party LDAR contractor.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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(NSR 0195M35, Condition A207.A)				
Monitoring: The permittee shall comply with the applicable monitoring requirements of NSPS Subpart J or Ja.	All of the continuous monitors are operated, maintained, and certified as required.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain records in accordance with the applicable requirements of NSPS Subparts J and Ja.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J and Ja.	Reports required by Subpart J and Ja are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A207 Sulfur Recovery Plant (SRP), Tail Gas Incinerator (TGI) B. The following BACT SO ₂ work practices and equipment shall apply to the SRP (SRU3/TGTU3/TGI3): (PSD-NM-0195-M25) Maintain at least 98% SRP on-stream operations. This includes curtailing refinery operations as necessary when SRU capacity is limited during planned startup, shutdown, and maintenance events. Maintain adequate SRP excess capacity to reduce the frequency and quantity of refinery excess SO ₂ emissions. After the refinery expansion project proposed units are constructed, the proposed SRU3 will provide at least 25% excess capacity. Continue to maintain and use a	Navajo has installed BACT, and implemented the work practices, as described in this permit condition.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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sulfur shedding plan to prevent or reduce acid gas flaring events from refinery upsets. An acid gas flaring event is defined as excess SO₂ emissions greater than 500 pounds in a 24-hour period. The plan shall state specific actions that may be taken to reduce or prevent acid gas flaring. The actions taken during any event will be based on the refinery operators' discretion, considering safety and other factors related to prudent operation. This plan is subject to review by NMED or EPA, and shall be amended upon written request by NMED or EPA. The sulfur shedding plan may include, but is not limited to the following options: (a) Store sour water to reduce acid gas generation from the sour water strippers (b) Reduce the operating rate of one or more amine strippers to lower the acid gas generation rate (c) Reduce one or more hydrotreating unit throughput rates to lower acid gas generation rate Use hydrogen, when available, as				
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SRU fuel during startup and hot standby to minimize carbon deposits on the SRU catalysts. During startup and shutdown and to the extent practicable, process vessels shall be depressurized into other process equipment rather than venting to a flare. The permittee shall document instances when this is not practicable.				
A207 Sulfur Recovery Plant (SPR), Tail Gas Incinerator (TGI) C. SRU1, SRU2, and SRU3 Requirement: (NSR 0195M35, Condition A207.C and revised) The permittee shall demonstrate compliance with the H₂S, SO₂, lb/hr, tpy emission limits by completing the following requirements, monitoring, recordkeeping and reporting: (1) A flow meter shall be installed, operated, calibrated, and maintained on the sour water stripper streams that go to the SRUs. (2) An SO₂ CEMS and flow meter shall be installed on the SRU1/SRU2 and SRU3 incinerator stacks. In addition, these units shall be equipped with instruments to measure and record sulfur concentration	1) A flow meter is in place on the sour water stripper streams into Units SRU1, SRU2, and SRU3. 2) The SO₂ CEMS and flow meter on the SRU1/SRU2 and SRU3 incinerator stacks, and the instruments used to measure sulfur concentration and flow rates of the gas streams into SRU1, SRU2, and SRU3, are calibrated and maintained at a frequency and method specified by the manufacturer, or as dictated by operating conditions. The SO₂ CEMS follow the quality assurance and quality control procedures in 40 CFR 60 Subpart J and Appendix F. 3) The minimum acceptable level of data capture for all instruments measuring flow and concentration of sulfur streams into the SRU1, SRU2, and SRU3 including the CEMS and flow meters on the incinerator stacks shall be at least 90% for each month. The 10% lost data includes periods when the concentration and corresponding flow are not being measured, as a result of calibrations or breakdowns. The data capture is reported in the semi-annual NSPS Subparts J and Ja reports.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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and flow rates of the gas streams into SRU1, SRU2, and SRU3. The CEMS, flow meters, and data loggers shall be calibrated and maintained. In addition, the calibration of the SO₂ CEMS shall follow the quality assurance and quality control procedures in 40 CFR 60 Subpart J or Ja and Appendix F. (3) The minimum acceptable level of data capture for all instruments measuring flow of sulfur streams into the SRU1, SRU2, and SRU3, as well as the CEMS and flow meters on the incinerator stacks, shall be at least 90% for each semi-annual period. The 10% lost data will include all periods when the concentration and corresponding flow are not being measured as a result of calibrations or breakdowns.				
Monitoring: The gas stream feeding SRU1, SRU2, and SRU3 from the amine regeneration units and the sour water stripper shall be tested at least monthly for H₂S concentration. The permittee shall monitor the following: (1) Flow rate of sour water stream to SRUs, (2) SO₂ concentration in SRU incinerator stacks and (3) Flow rate of the SRU incinerator stacks.	1), 2), and 3) Navajo complies with the requirements of this permit condition.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Recordkeeping: The permittee shall maintain records in accordance with the applicable requirements of NSPS Subparts J or Ja and MACT Subpart UUU. The permittee shall also keep records of the following: (1) Flow rate of sour water stream to SRUs, (2) SO₂ concentration in SRU incinerator stacks and (3) Flow rate of the SRU incinerator stacks.	1), 2), and 3) Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☒ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J or Ja, MACT Subpart UUU, and Section B110.	Reports required by NSPS Subpart J and Ja, MACT UUU and section B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A207 Sulfur Recovery Plant (SPR), Tail Gas Incinerator (TGI) D. 40 CFR 60, Subpart J (Unit(s) SRU1 and SRU2) Requirement: The permittee shall comply with the applicable requirements of 40 CFR 60, Subpart J.	Navajo complies with the requirements of Subpart J.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall install a continuous monitoring device to monitor compliance with the H₂S limit. (40 CFR 60.105(a)(3-4))	Navajo complies with the requirements of Subpart J.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain the continuous emission records.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Reporting: The permittee shall comply with the reporting requirements of 40 CFR 60, Subpart J.	Navajo complies with the requirements of Subpart J.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives A. NSPS Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after January 4, 1983, and on or before November 7, 2006 (Fugitives subject in Table 103.B)	Navajo continues to comply with the applicable requirements of NSPS Subpart GGG as applicable to the process fugitive areas shown in Table 103B, except for deviations noted in semiannual reports. Fugitive components subject to either of these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart GGG for all sources in Table 103.B (affected units and voluntarily units). This table also includes areas that are voluntarily following the NSPS Subpart GGG monitoring requirements. (See footnote 1 to Table 103.B)	Navajo continues to comply with the applicable requirements of NSPS Subpart GGG as applicable to the process fugitive areas shown in Table 103B, except for deviations noted in semiannual reports. Fugitive components subject to either of these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 60, Subpart GGG.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart GGG.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart GGG.	Subpart GGG/GGGa reports were submitted semi-annually as follows: 02/18/2016 08/29/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives B. NSPS Subpart GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or	Navajo continues to comply with the applicable requirements of NSPS Subparts GGG and GGGa as applicable to the process fugitive areas shown in Table 103B, except for the deviations noted in semiannual reports and for not applying GGGa in Units 34, 25, 21, 10, and 2. Fugitive components	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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Modification Commenced After November 7, 2006 (Fugitives subject in Table <u>103.B</u>) Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart GGGa for all sources in Table 103.B (affected units and voluntarily units). This table also includes areas that are voluntarily following the NSPS Subpart GGGa monitoring requirements.	subject to either of these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.			
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 60, Subpart GGGa.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart GGGa.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart GGGa.	Subpart GGG/GGGa reports were submitted semi-annually as follows: 02/18/2016 08/29/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives C. MACT Subpart CC, “National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries” (Fugitives subject in Table 103.B) Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, “National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries” for all affected sources shown in Tables 103.B. (63.640).	The Gasoline Loading Rack is equipped with a carbon adsorption system.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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For all activities in Table 103.B that are not subject to MACT CC, the permittee voluntarily performs a LDAR program for those units and that program meets the requirements of MACT CC.				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	The Gasoline Loading Rack carbon absorption has a VOC CEMS installed in the exhaust air stream.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Records are kept by Holly Energy Partners (HEP) either at the Gasoline Loading Rack or at the HEP Artesia Office.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted MACT CC semiannual reports dated as follows: 02/18/2016 08/29/2016	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A209 Fugitives D. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (Fugitives subject in Table 103.B) Requirement The permittee shall comply with all applicable requirements of NSPS, 40 CFR Part 60.690, Subpart QQQ.	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations noted in semiannual reports. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually. Compliance reports were submitted as follows: 01/28/2016 07/28/2016	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations noted in semiannual reports. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.696.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Reporting: The permittee shall comply	Subpart QQQ reports were submitted semi-annually as follows:	☐ Continuous	☐ Yes	☒ Yes

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with the applicable reporting requirements of 40 CFR 60.697.	01/28/2016 07/28/2016	☒ Intermittent	☒ No	☐ No
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A209 Fugitives E. Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available Significant permit revision in accordance with 20.2.72 NMAC. The facility wide fugitive VOC emission limit shown above and in Table 106.A of this permit.	Navajo understands that minor changes to the facility piping and components that affect fugitive emissions will be added during the next permit modificaiton.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A210 Loading Racks A. Truck and Rail Loading (Unit shown in Table 106.G) Requirement: Compliance with the allowable emission limits in Table 106.G shall be demonstrated by not exceeding the monthly rolling 12-month total throughput for each loading rack for each different product in gallons per year (barrels/year).	The Gasoline Loading Rack is equipped with a carbon adsorption system. The Rail Loading Rack does not exceed the 12-month total throughput, but records are not tracked as required by permit.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall monitor the throughput volumes on a monthly basis.	The Gasoline Loading Rack carbon absorption has a VOC CEMS installed in the exhaust air stream. The Rail Loading Rack volumes are tracked daily.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall record the monthly throughput volume for each loading rack for each different product. Each month during the first 12 months of monitoring the permittee shall record the cumulative condensate loadout volume and after the first 12 months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total loadout volume.	Records are kept by Holly Energy Partners (HEP) either at the Gasoline Loading Rack or at the HEP Artesia Office. Records are not tracked as required by the permit.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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Records shall also be maintained in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo submitted MACT CC semiannual reports dated as follows: 02/18/2016 08/29/2016	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A210 Loading Racks B. Fuel Truck Loading Rack (Units subject in Table 103.D) (40 CFR 63, Subpart CC) Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries. Specially, the truck loading rack shall be equipped with a carbon adsorption system for compliance with the MACT requirements.	The Truck Loading Rack has a carbon absorption system installed.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. Specifically 63.427(a)(2), where a carbon adsorption system is used, a continuous emission monitoring system (CEMS) capable of measuring organic compound concentration shall be installed in the exhaust air stream.	The Truck Loading Rack has a CEMS installed.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart CC.	Records are kept by Holly Energy Partners (HEP) either at the Gasoline Loading Rack or at the HEP Artesia Office.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart CC.	Navajo submitted MACT CC semiannual reports dated as follows: 02/18/2016 08/29/2016	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

A211 Fluid Catalytic Cracking Unit (FCC) A. Continuous Monitor System(CMS) (Unit FCC REGEN) Requirement: <u>(1) Consent Decree Limits on PM and SO₂ emissions from the FCC:</u> By no later than December 31, 2003, the Wet Gas Scrubber (WGS) on the FCC Regenerator shall comply with the following limits: (CD ¶12.B & ¶13.B) (d) SO₂ concentration not to exceed 25 ppmvd on a daily rolling 365-day average basis and 50 ppmvd on a daily rolling 7-day average basis, each corrected to 0% oxygen. Compliance with this emissions limit shall be demonstrated on an ongoing basis through the use of CMS; and (e) a particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis (CD ¶13.B). To demonstrate compliance with this requirement, the Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9, Opacity Test in accordance with their approved	1d) The FCC catalyst regenerator exhaust is continuously monitored for SO₂. 1e) The catalytic cracking regenerator is tested annually for PM and was tested on the following date: 01/06/2016 1f) Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9. 2) The FCC exhaust is continuously monitored for NO_x and CO. Deviations were reported to the Department as excess emission events and on the Subpart A report.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
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Alternative Monitoring Plan (AMP). (f) As the FCC Regenerator is subject to the provisions of 40 CFR 60.102 (NSPS Subpart J), it shall not discharge to the atmosphere gases exhibiting greater than 30 percent opacity, except for one six-minute average opacity reading in any one-hour period. (2) <u>Consent Decree Limits on NO_x and CO emissions from the FCC:</u> The FCC shall comply with NO_x and CO emission limits as follows: (a) The concentration-based (ppmvd) NO_x emission limit based on daily rolling 7-day and daily rolling 365-day averages, corrected to 0% oxygen as established pursuant to the Consent Decree, unless EPA rejects the proposed limit and establishes a different NO_x emission limit, in which case the FCC shall comply with EPA's established limit. Under no circumstances shall this emission limit be greater than a concentration-based limit that would be equivalent to 34.9 lbs/hr. The 7-day FCC NO_x emission limits, shall not apply during periods of Hydrotreater Outage provided that the FCC				
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(including associated air pollution control equipment) is maintained and operated in a manner that minimizes emissions in accordance with an EPA-approved good air pollution control practices plan. Navajo shall comply with the plan at all times, including periods of startup, shutdown, and malfunction of the hydrotreater. The daily rolling 365-day average NO_x emissions limit shall apply during periods of hydrotreater outages. The NO_x limits are: (1) 87.3 ppmvd NO_x, corrected to 0% O₂ on a daily rolling 7-day average, and (2) 58.1 ppmvd NO_x, corrected to 0% O₂ on a daily rolling 365-day average (b) The NSPS Subpart J emission limit of 500 ppmvd CO corrected to 0% O₂ on a 1-hour average basis and 100 ppmvd CO corrected to 0% O₂ on a daily rolling 365-day average basis, by no later than December 31, 2003.				
Monitoring: (1) A continuous monitor system (CMS) for CO, O₂, SO₂ and NO_x shall be installed, calibrated, maintained, and	1) The FCCU Catalyst Regenerator Scrubber exhaust is continuously monitored for CO, O₂, SO₂, and NO_x. PM is monitored annually. 2) The FCC regenerator CMS were recertified on	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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operated on the FCC Catalyst Regenerator vent stack(s) downstream of the scrubber in accordance with 40 CFR Part 60, §60.13, Appendix A, and the applicable performance specifications of Appendices B (Specifications 2 and 3) and F. The CMS shall be used to demonstrate compliance with CO, SO₂ and NO_x emissions limits and to report compliance with the terms and conditions of the Consent Decree. The CMS and process data shall be made available, by permittee, to applicable Federal and State Agencies (NMED) upon demand as soon as practicable. (CD ¶11.F, 12 D, and 14.C) (2) The FCC Regenerator Scrubber NO_x, SO₂, CO and O₂ CMS shall be recertified annually. (3) The CMS data shall be monitored to ensure the CO, SO₂ and NO_x emission limits for the FCC are met. (4) The Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9 Opacity test to demonstrate compliance with the particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis and opacity limit of 30%. Permittee shall meet testing requirements of B111.	the following dates: CO 01/05/2016 & 01/06/2016 SO₂ 01/05/2016 & 01/06/2016 NO_x 01/05/2016 & 01/06/2016 3) CMS data is used to ensure emissions limits are met. 4) The catalytic cracking regenerator is tested annually for PM and was tested on the following date: 01/06/2016 Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9.			
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Recordkeeping: The permittee shall maintain the records of: (1) The certification and re-certification of the CMS. (2) Modifications to the FCC's good air pollution control practice plan to minimize NOx emissions shall be summarized on an annual basis if any changes were made. (CD ¶11.G) (3) The permittee shall keep records of CMS data monitoring NO₂, SO₂, PM₁₀ and CO emissions from the FCC. (CD ¶11.F, CD ¶12.D & CD ¶14.C) (4) Records of NOx, CO, SO₂ ppmvd, lb/hr, tpy; PM lb/hr, tpy and opacity. TPY shall be based on a monthly rolling 12-month total. (5) The permittee shall keep records of annual PM stack tests and weekly Method 9 observations conducted on the FCC. For any opacity observations conducted in accordance with the requirements of EPA Method 9, record the information on the form referenced in EPA Method 9, Sections 2.2 and 2.4.	1), 2), 3), 4), and 5) Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110 and testing requirements of B111.	Reports required by NSPS Subpart J and Ja are included in the Subpart A report. Section B110 reports are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A211 Fluid Catalytic Cracking Unit (FCC) B. Performance Testing (Unit FCC REGEN) Requirements: (1) The permittee shall demonstrate compliance with the NSPS Subpart J particulate matter emission limit at Table 106.A by conducting an initial performance test in accordance with NSPS Subpart A, §60.8 and NSPS Subpart J, §60.106(b). The particulate matter stack test shall be repeated on an annual basis. (2) The permittee shall comply with all applicable performance testing requirements in accordance with MACT Subparts A and UUU.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Testing shall be conducted in accordance with NSPS Subparts A and J, and in accordance with MACT Subparts A and UUU.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain performance test records in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance with Section B109.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report performance test results in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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with Section B110.				
A212 Cooling Towers A. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Cooling Towers subject in Table 103.F) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart CC for heat exchange systems for all affected sources shown in Table 103.F attached. (63.654(a), 63.640(h)(6))	Navajo complies with the applicable requirements for heat exchange systems, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. (63.654(c), (d), (e), (f))	Navajo complies with the applicable requirements for heat exchange systems, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart CC. (63.654(g), 63.655(i)(4), (i)(5))	Navajo complies with the applicable requirements for heat exchange systems.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart CC. (63.655(f), (f)(1)(vi), (g)(9), (h)(1), (7))	Navajo submitted MACT CC semiannual reports dated as follows: 02/18/2016 08/29/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A212 Cooling Towers B. Cooling Tower Operations (Cooling Towers subject in Table 103.F) Requirement: Compliance with the allowable emission limits in Table 106.H shall be demonstrated by meeting the following requirements:	1) Navajo operates with less than six (6) recirculating pumps per heat exchange system. 2) The pump capacity is less than 65,500 gpm 3) The Total Dissolved Solids (TDS) is tracked but records are not kept per the requirements. 4) Drift eliminators are not inspected for 0.001% or 0.003 drift.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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1) operate a maximum of six (6) recirculating pumps at any one time; 2) ensure that each pump capacity shown in Table 104.A are not exceeded gallons per minute for each cooling tower (65,500 gpm total maximum rate for 6 pumps); 3) limit the Total Dissolved Solids (TDS) content for the cooling tower recirculating water system to 3500 ppmw, based on a monthly rolling 12-month annual average; 4) ensure that the drift eliminator are rated by the manufacturer at 0.001% or 0.003 drift or less as shown in Table 104.A; and 5) ensure that the drift eliminator is present and in good working order. The permittee shall measure the Total Dissolved Solids (TDS) content of the recirculating water through direct laboratory analysis, or may use a conductivity meter on the recirculating water system for the cooling tower. The correlation between conductivity of the water and the TDS content shall be taken as $0.9 * \text{conductivity } (\mu\text{mhos/cm}) = \text{TDS (ppmw)}$ unless a new correlation is determined through laboratory analysis and submitted to the Permit Program Manager	5) Drift eliminators are inspected on an annual basis.			
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for approval.				
Monitoring: The permittee shall: 1) Monitor the recirculating water TDS content by direct laboratory analysis of the TDS or through use of conductivity meter values and correlated TDS on a monthly basis; and a. Any correlation other than the 0.9 value described above shall be developed by the permittee by independent laboratory measurement of at least 10 water samples with approximately evenly spaced measured TDS values that bracket the minimum and maximum values expected. The highest laboratory TDS sample used for the correlation shall be greater than the maximum allowable TDS of 3500 ppmw. 2) Perform an annual inspection of the drift eliminator and perform any maintenance necessary to ensure the device operates according to the manufacturer's specifications.	1) The TDS is monitored but records are not tracked per the permit requirements. 2) Drift eliminators are inspected on an annual basis. 3) The Cooling Towers are monitored for VOC breakthrough via the El Paso Method described in Appendix P.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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3) The permittee shall monitor the cooling water inlet and outlet streams for hydrocarbons on an annual basis using either EPA Method 8015 with a large enough sample to achieve accurate quantification of hydrocarbon content, EPA Method 8260, EPA Method 8270 or a similar method as approved by the Department prior to testing.				
Recordkeeping: The permittee shall maintain the following records: 1) Manufacturer's specifications demonstrating maximum capacities of the recirculating water pumps and the manufacturer's specification for the drift eliminator specified drift rate; 2) Monthly TDS and monthly rolling 12-month average; 3) If a conductivity meter is installed, a record of the correlation between conductivity and TDS, any laboratory analyses used to determine the correlation, and all related calculations; 4) Annual drift eliminator inspection and any records of maintenance performed.	1), 2), 3) and 4) Recordingkeeping is tracked, but not kept per the permit requirements.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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The permittee shall maintain records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo submitted MACT CC semiannual reports dated as follows: 02/18/2016 08/29/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A213 Wastewater Systems A. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (Unit MAIN API) Requirement: Beginning December 31, 2003, all remaining and newly installed individual drain systems, oil-water separators, and aggregate facilities not previously specified shall be affected facilities, as the term is used in the NSPS, 40 CFR Part 60, Subpart QQQ, and shall be subject to and comply with the applicable requirements of 40 CFR Part 60, Subpart QQQ. (CD ¶29) The permittee shall comply with all applicable requirements of NSPS Subpart QQQ for the affected sources in Tables 103.B, C, G. (60.690)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations noted in semiannual reports. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually. Compliance reports were submitted as follows: 01/28/2016 07/28/2016	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695 and 60.696)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations noted in semiannual reports. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping	Records are maintained by Navajo Environmental Department.	☐ Continuous	☒ Yes	☐ Yes

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requirements of 40 CFR 60.697.		☒ Intermittent	☐ No	☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.698.	Subpart QQQ reports were submitted semi-annually as follows: 01/28/2016 07/28/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A213 Wastewater Systems B. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Tables 103.B, C, G attached. (63.640).	Navajo complies with the requirements of MACT CC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	Navajo complies with the requirements of MACT CC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted MACT CC semiannual reports dated as follows: 02/18/2016 08/29/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A213 Wastewater Systems C. Wastewater Treatment System (Units shown in Table 106.I) Requirement: Compliance with the emission limits in Table 106.I shall be demonstrated by properly maintaining and	Navajo complies with this requirement.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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repairing the units, and running the Wastewater Model annually to calculate the maximum VOC emissions generated.				
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Monitoring: (1) Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events: (a) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period. (b) Unscheduled repairs that require a unit to be taken out of service for more than two hours in any twenty-four hour period. (2) The permittee shall annually run the Waste-Water Model to determine the hourly and annual emission rates, based on Toxchem V4 Input Parameters.	1) and 2) Navajo complies with this requirement.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: (1) The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule. (2) The permittee shall maintain records of the Toxchem V4 Input Parameters and the emission calculation results compared to permit limits.	1) and 2) Navajo complies with this requirement.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with the requirement of section B110.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
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PART 1 B General Conditions

1. Have these General Conditions been met during this reporting period? <u><i>If the section Heading is marked as N/A no remarks are required.</i></u> <u><i>Check only one box per subject heading.</i></u> <u><i>Explain answers in remarks row under subject heading.</i></u>	2. Was this facility in compliance with this requirement during the reporting period?	3. Does not apply
B100 <u>Introduction</u> A. N/A	☒ Yes Explain Below	☐ No Explain Below
REMARKS:		
B101 <u>Legal</u> A. Permit Terms and Conditions (20.2.70 sections 7, 201.B, 300, 301.B, 302, 405 NMAC) (1) The permittee shall abide by all terms and conditions of this permit, except as allowed under Section 502(b)(10) of the Federal Act, and 20.2.70.302.H.1 NMAC. Any permit noncompliance is grounds for enforcement action, and significant or repetitious noncompliance may result in termination of this permit. Additionally, noncompliance with federally enforceable conditions of this permit constitutes a violation of the Federal Act. (20.2.70.302.A.2.a NMAC) (2) Emissions trading within a facility (20.2.70.302.H.2 NMAC) (a) The Department shall, if an applicant requests it, issue permits that contain terms and conditions allowing for the trading of emissions increases and decreases in the permitted facility solely for the purpose of complying with a federally enforceable emissions cap that is established in the permit in addition to any applicable requirements. Such terms and conditions shall include all terms and conditions required under 20.2.70.302 NMAC to determine compliance. If applicable requirements apply to the requested emissions trading, permit conditions shall be issued only to the extent that the applicable requirements provide for trading such increases and decreases without a case-by-case approval. (b) The applicant shall include in the application proposed replicable procedures and permit terms that ensure the emissions trades are quantifiable and enforceable. The Department shall not include in the emissions trading provisions any emissions units for which emissions are not quantifiable or for which there are no replicable procedures to enforce the emissions trades. The permit shall require compliance with all applicable requirements. (3) It shall not be a defense for the permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (20.2.70.302.A.2.b NMAC) (4) If the Department determines that cause exists to modify, reopen and revise, revoke and reissue, or terminate this	☒ Yes Explain Below	☐ No Explain Below

PART 1 B General Conditions

permit, this shall be done in accordance with 20.2.70.405 NMAC. (20.2.70.302.A.2.c NMAC) (5) The permittee shall furnish any information the Department requests in writing to determine if cause exists for reopening and revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. This information shall be furnished within the time period specified by the Department. Additionally, the permittee shall furnish, upon request by the Department, copies of records required by the permit to be maintained by the permittee. (20.2.70.302.A.2.f NMAC) (6) A request by the permittee that this permit be modified, revoked and reissued, or terminated, or a notification by the permittee of planned changes or anticipated noncompliance, shall not stay any conditions of this permit. (20.2.70.302.A.2.d NMAC) (7) This permit does not convey property rights of any sort, or any exclusive privilege. (20.2.70.302.A.2.e NMAC) (8) In the case where an applicant or permittee has submitted information to the Department under a claim of confidentiality, the Department may also require the applicant or permittee to submit a copy of such information directly to the Administrator of the EPA. (20.2.70.301.B NMAC) (9) The issuance of this permit, or the filing or approval of a compliance plan, does not relieve the permittee from civil or criminal liability for failure to comply with the state or Federal Acts, or any applicable state or federal regulation or law. (20.2.70.302.A.6 NMAC and the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2) (10) If any part of this permit is challenged or held invalid, the remainder of the permit terms and conditions are not affected and the permittee shall continue to abide by them. (20.2.70.302.A.1.d NMAC) (11) A responsible official (as defined in 20.2.70.7.AE NMAC) shall certify the accuracy, truth and completeness of every report and compliance certification submitted to the Department as required by this permit. These certifications shall be part of each document. (20.2.70.300.E NMAC) (12) Revocation or termination of this permit by the Department terminates the permittee's right to operate this facility. (20.2.70.201.B NMAC) (13) The permittee shall continue to comply with all applicable requirements. For applicable requirements that will become effective during the term of the permit, the permittee shall meet such requirements on a timely basis. (Sections 300.D.10.c and 302.G.3 of 20.2.70 NMAC) B. Permit Shield (20.2.70.302.J NMAC) (1) Compliance with the conditions of this permit shall be deemed to be compliance with any applicable requirements existing as of the date of permit issuance and identified in Table 103.A. The requirements in Table 103.A are applicable to this facility with specific requirements identified for individual emission units. (2) The Department has determined that the requirements in Table 103.B as identified in the permit application are not			
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applicable to this source, or they do not impose any conditions in this permit. (3) This permit shield does not extend to administrative amendments (Subsection A of 20.2.70.404 NMAC), to minor permit modifications (Subsection B of 20.2.70.404 NMAC), to changes made under Section 502(b)(10), changes under Paragraph 1 of subsection H of 20.2.70.302 of the Federal Act, or to permit terms for which notice has been given to reopen or revoke all or part under 20.2.70.405 and 20.2.70.302J(6). (4) This permit shall, for purposes of the permit shield, identify any requirement specifically identified in the permit application or significant permit modification that the department has determined is not applicable to the source, and state the basis for any such determination. (20.2.70.302.A.1.f NMAC) C. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollutant control practices for minimizing emissions. (20.2.7.109 NMAC). The establishment of allowable malfunction emission limits does not supersede this requirement.			
REMARKS: Except for deviations reported on the semi-annual reports and/or this report.			
B102 <u>Authority</u> A. This permit is issued pursuant to the federal Clean Air Act ("Federal Act"), the New Mexico Air Quality Control Act ("State Act") and regulations adopted pursuant to the State and Federal Acts, including Title 20, New Mexico Administrative Code, Chapter 2, Part 70 (20.2.70 NMAC) - Operating Permits. B. This permit authorizes the operation of this facility. This permit is valid only for the named permittee, owner, and operator. A permit modification is required to change any of those entities. C. The Department specifies with this permit, terms and conditions upon the operation of this facility to assure compliance with all applicable requirements, as defined in 20.2.70 NMAC at the time this permit is issued. (20.2.70.302.A.1 NMAC) D. Pursuant to the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2, all terms and conditions in this permit, including any provisions designed to limit this facility's potential to emit, are enforceable by the Department. All terms and conditions are enforceable by the Administrator of the United States Environmental Protection Agency ("EPA") and citizens under the Federal Act, unless the term or condition is specifically designated in this permit as not being enforceable under the Federal Act. (20.2.70.302.A.5 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below

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E. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the Modification and Exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).			
REMARKS:			
B103 <u>Annual Fee</u> The permittee shall pay Title V fees to the Department consistent with the fee schedule in 20.2.71 NMAC - Operating Permit Emission Fees. The fees will be assessed and invoiced separately from this permit. (20.2.70.302.A.1.e NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
REMARKS:			
B104 <u>Appeal Procedures</u> (20.2.70.403.A NMAC) A. Any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for a hearing before the Environmental Improvement Board ("board"). The petition shall be made in writing to the board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered, and attach a copy of the permitting action for which review is sought. Unless a timely request for a hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to: Secretary, New Mexico Environmental Improvement Board 1190 St. Francis Drive, Runnels Bldg. Rm N2153 Santa Fe, New Mexico 87502	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
REMARKS:			

PART 1 B General Conditions

B105 <u>Submittal of Reports and Certifications</u>	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to Stacktest.AQB@state.nm.us or as directed by the Department. B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC) C. Compliance Certification Reports, Semi-Annual monitoring reports, compliance schedule progress reports, and any other compliance status information required by this permit shall be certified by the responsible official and submitted to the mailing address below, or as directed by the Department: Manager, Compliance and Enforcement Section New Mexico Environment Department Air Quality Bureau 525 Camino de los Marquez, Suite 1 Santa Fe, NM 87505-1816 D. Compliance Certification Reports shall also be submitted to the Administrator at the address below (20.2.70.302.E.3 NMAC): Chief, Air Enforcement Section US EPA Region-6, 6EN-AA 1445 Ross Avenue, Suite 1200 Dallas, TX 75202-2733			
REMARKS: Except for deviations reported on the semi-annual reports and/or this report.			

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B106 <u>NSPS and/or MACT Startup, Shutdown, and Malfunction Operations</u>	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c). B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart. (20.2.70.302.A.1 and A.4 NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or this report.			
B107 <u>Startup, Shutdown, and Maintenance Operations</u>	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (20.2.7.14.A NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or this report.			

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B108 General Monitoring Requirements (20.2.70. 302.A and C NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. These requirements do not supersede or relax requirements of federal regulations. B. The following monitoring and/or testing requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer. C. If the emission unit is shutdown at the time when periodic monitoring is due to be accomplished, the permittee is not required to restart the unit for the sole purpose of performing the monitoring. Using electronic or written mail, the permittee shall notify the Department's Enforcement Section of a delay in emission tests prior to the deadline for accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish the monitoring. D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke monitoring period exemptions at B108.D(2), hours of operation shall be monitored and recorded. (1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period. (2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods. (3) If invoking the monitoring period exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the			

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monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during the five year term of this permit. E. The permittee is not required to report a deviation for any monitoring or testing in a Specific Condition if the deviation was authorized in this General Condition B108. F. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report. G. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. H. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance. All monitoring periods, unless stated otherwise in the specific permit condition or federal requirement, shall commence at the beginning of the 12 month reporting period as defined at condition A109.B.			
REMARKS: Except for deviations reported on the semi-annual reports and/or this report.			

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B109 <u>General Recordkeeping Requirements</u> (20.2.70.302.D.1 NMAC) A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any applicable requirements that become effective during the term of this permit. The minimum information to be included in these records is (20.2.70.302.D.1 NMAC): (1) Records required for testing and sampling: (a) equipment identification (include make, model and serial number for all tested equipment and emission controls); (b) date(s) and time(s) of sampling or measurements; (c) date(s) analyses were performed; (d) the company or entity that performed the analyses; (e) analytical or test methods used; (f) results of analyses or tests; and (g) operating conditions existing at the time of sampling or measurement. (2) Records required for equipment inspections and/or maintenance required by this permit: (a) equipment identification number (including make, model and serial number) (b) date(s) and time(s) of inspection, maintenance, and/or repair (c) date(s) any subsequent analyses were performed (if applicable) (d) name of the person or qualified entity conducting the inspection, maintenance, and/or repair (e) copy of the equipment manufacturer's or the owner or operator's maintenance or repair recommendations (if required to demonstrate compliance with a permit condition) (f) description of maintenance or repair activities conducted (g) all results of any required parameter readings (h) a description of the physical condition of the equipment as found during any required inspection (i) results of required equipment inspections including a description of any condition which required	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
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adjustment to bring the equipment back into compliance and a description of the required adjustments B. The permittee shall keep records of all monitoring data, equipment calibration, maintenance, and inspections, Data Acquisition and Handling System (DAHS) if used, reports, and other supporting information required by this permit for at least five (5) years from the time the data was gathered or the reports written. Each record shall clearly identify the emissions unit and/or monitoring equipment, and the date the data was gathered. (20.2.70.302.D.2 NMAC) C. If the permittee has applied and received approval for an alternative operating scenario, then the permittee shall maintain a log at the facility, which documents, contemporaneously with any change from one operating scenario to another, the scenario under which the facility is operating. (20.2.70.302.A.3 NMAC) D. The permittee shall keep a record describing off permit changes made at this source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes. (20.2.70.302.I.2 NMAC) E. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine and predictable emissions during startup, shutdown, and scheduled maintenance (SSM): (1) The owner or operator of a source subject to a permit, shall establish and implement a plan to minimize emissions during routine or predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC - Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. (20.2.7.14.A NMAC) The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC. (2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. (3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction			
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events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit. (4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or this report.			
B110 <u>General Reporting Requirements</u> (20.2.70.302.E NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. Reports of required monitoring activities for this facility shall be submitted to the Department on the schedule in section A109. Monitoring and recordkeeping requirements that are not required by a NSPS or MACT shall be maintained on-site or (for unmanned sites) at the nearest company office, and summarized in the semi-annual reports, unless alternative reporting requirements are specified in the equipment specific requirements section of this permit. B. Reports shall clearly identify the subject equipment showing the emission unit ID number according to this operating permit. In addition, all instances of deviations from permit requirements, including those that occur during emergencies, shall be clearly identified in the reports required by section A109. (20.2.70.302.E.1 NMAC) C. The permittee shall submit reports of all deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. These reports shall be submitted as follows: (1) Deviations resulting in excess emissions as defined in 20.2.7.7 NMAC (including those classified as emergencies as defined in section B114.A) shall be reported in accordance with the timelines specified by 20.2.7.110 NMAC and in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC) (2) All other deviations shall be reported in the semi-annual reports required in section A109. (20.2.70.302.E.2			

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NMAC). D. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC. E. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format. F. At such time as new units are installed as authorized by the applicable NSR Permit, the permittee shall fulfill the notification requirements in the NSR permit. G. Periodic Emissions Test Reporting: The permittee shall report semi-annually a summary of the test results. H. The permittee shall submit an emissions inventory for this facility annually. The emissions inventory shall be submitted by the later of April 1 or within 90 days after the Department makes such request. (20.2.73 NMAC and 20.2.70.302.A.1 NMAC) (1) The facility emits, or has the potential to emit, 5 tons per year or more of lead or lead compounds, or 100 tons per year or more of PM₁₀, PM_{2.5}, sulfur oxides, nitrogen oxides, carbon monoxide, or volatile organic compounds. (2) The facility is defined as a major source of hazardous air pollutants under 20.2.70 NMAC (Operating Permits). (3) The facility is located in an ozone nonattainment area and which emits, or has the potential to emit, 25 tons per year or more of nitrogen oxides or volatile organic compounds. (4) Upon request by the department. (5) The permittee shall submit the emissions inventory report by April 1 of each year, unless a different deadline is specified by the current operating permit. I. Emissions trading within a facility (20.2.70.302.H.2 NMAC) (1) For each such change, the permittee shall provide written notification to the department and the administrator at least seven (7) days in advance of the proposed changes. Such notification shall state when the change will occur and shall describe the changes in emissions that will result and how these increases and decreases in emissions will comply with the terms and conditions of the permit. (2) The permittee and department shall attach each such notice to their copy of the relevant permit.			
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REMARKS:

Except for deviations reported on the semi-annual reports and/or this report.

B111 General Testing Requirements**A. Compliance Tests**

- (1) Compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. (20.2.72 NMAC Sections 210.C and 213)
- (2) Compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.
- (3) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Department approval, be determined using the arithmetic mean of the results of the two other runs.
- (4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate, subject to the approval of the Department.
- (5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.
- (6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

☒ **Yes**
Explain
Below

☐ **No**
Explain
Below

☐ **N/A**
Explain
Below

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B. EPA Reference Method Tests (1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of this permit, shall be conducted in accordance with the requirements of 40 CFR 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by 40 CFR 60, Appendix A: (a) Methods 1 through 4 for stack gas flowrate (b) Method 5 for TSP (c) Method 6C and 19 for SO₂ (d) Method 7E for NO_x (test results shall be expressed as nitrogen dioxide (NO₂) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO₂ is equivalent to 1.194 x 10⁻⁷ lb/SCF) (e) Method 9 for opacity (f) Method 10 for CO (g) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter). (h) Method 7E or 20 for Turbines per 60.335 or 60.4400 (i) Method 29 for Metals (j) Method 201A for filterable PM₁₀ and PM_{2.5} (k) Method 202 for condensable PM (l) Method 320 for organic Hazardous Air Pollutants (HAPs) (m) Method 25A for VOC reduction efficiency (n) Method 30B for Mercury (2) Alternative test method(s) may be used if the Department approves the change. C. Periodic Monitoring and Portable Analyzer Requirements (1) Periodic emissions tests (periodic monitoring) may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of ASTM D 6522-00. However, if a facility has met a previously approved			
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Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced. (2) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be at least 20 minutes. Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit. (3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.F. (4) During emissions tests, pollutant and diluent concentration shall be monitored and recorded. Fuel flow rate shall be monitored and recorded if stack gas flow rate is determined utilizing Method 19. This information shall be included with the test report furnished to the Department. (5) Stack gas flow rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) determined by a dedicated fuel flow meter and fuel heating value (Btu/scf) determined from a fuel sample obtained preferably during the day of the test, but no earlier than three months prior to the test date. Alternatively, stack gas flow rate may be determined by using EPA Methods 1-4.			
D. Test Procedures: (1) The permittee shall notify the Department's Program Manager, Compliance and Enforcement Section at least thirty (30) days before the test to afford a representative of the Department an opportunity to be present at the test. (40CFR 60.8(d)) (2) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete. (3) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing. (4) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment. (5) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Method 1 or ASTM D 6522-00 as applicable. (6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed (7) Unless otherwise indicated by Specific Conditions or regulatory requirements, test reports shall be submitted to the Department no later than 30 days after completion of the test.			

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REMARKS:

Except for deviations reported on the semi-annual reports and/or this report.

B112 Compliance

☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
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- A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)
- B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.70.302.G.3 NMAC)
- C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit. (20.2.70.302.A.1 and G.3 NMAC)
- D. The permittee shall submit compliance certification reports certifying the compliance status of this facility with respect to all permit terms and conditions, including applicable requirements. These reports shall be made on the pre-populated Compliance Certification Report Form that is provided to the permittee by the Department, and shall be submitted to the Department and to EPA at least every 12 months. For the most current form, please contact the Compliance Reports Group at email:reportsgroup.aqb@state.nm.us. For additional reporting guidance see https://www.env.nm.gov/aqb/enforce_compliance/SubmittalForms.htm. (20.2.70.302.E.3 NMAC)
- E. The permittee shall allow representatives of the Department, upon presentation of credentials and other documents

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as may be required by law, to do the following (20.2.70.302.G.1 NMAC): (1) enter the permittee's premises where a source or emission unit is located, or where records that are required by this permit to be maintained are kept; (2) have access to and copy, at reasonable times, any records that are required by this permit to be maintained; (3) inspect any facilities, equipment (including monitoring and air pollution control equipment), work practices or operations regulated or required under this permit; and (4) sample or monitor any substances or parameters for the purpose of assuring compliance with this permit or applicable requirements or as otherwise authorized by the Federal Act.			
REMARKS: Except for deviations reported on the semi-annual reports and/or this report.			
B113 <u>Permit Reopening and Revocation</u> A. This permit will be reopened and revised when any one of the following conditions occurs, and may be revoked and reissued when A(3) or A(4) occurs. (20.2.70.405.A.1 NMAC) (1) Additional applicable requirements under the Federal Act become applicable to a major source three (3) or more years before the expiration date of this permit. If the effective date of the requirement is later than the expiration date of this permit, then the permit is not required to be reopened unless the original permit or any of its terms and conditions has been extended due to the Department's failure to take timely action on a request by the permittee to renew this permit. (2) Additional requirements, including excess emissions requirements, become applicable to this source under Title IV of the Federal Act (the acid rain program). Upon approval by the Administrator, excess emissions offset plans will be incorporated into this permit. (3) The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the terms and conditions of the permit. (4) The Department or the Administrator determines that the permit must be revised or revoked and reissued to assure compliance with an applicable requirement.	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below

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B. Proceedings to reopen or revoke this permit shall affect only those parts of this permit for which cause to reopen or revoke exists. Emissions units for which permit conditions have been revoked shall not be operated until new permit conditions have been issued for them. (20.2.70.405.A.2 NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or this report.			
B114 <u>Emergencies</u> (20.2.70.304 NMAC) A. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the permittee, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, or careless or improper operation. B. An emergency constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations contained in this permit if the permittee has demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that: (1) An emergency occurred and that the permittee can identify the cause(s) of the emergency; (2) This facility was at the time being properly operated; (3) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; and (4) The permittee submitted notice of the emergency to the Department within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirement of 20.2.70.302.E.2 NMAC. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. C. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below

PART 1 B General Conditions

D. This provision is in addition to any emergency or upset provision contained in any applicable requirement.			
REMARKS: Except for deviations reported on the semi-annual reports and/or this report.			
B115 <u>Stratospheric Ozone</u> (20.2.70.302.A.1 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. If this facility is subject to 40 CFR 82, Subpart F, the permittee shall comply with the following standards for recycling and emissions reductions: (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices, except for motor vehicle air conditioners (MVAC) and MVAC-like appliances. (40 CFR 82.156) (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment. (40 CFR 82.158) (3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program. (40 CFR 82.161)			
REMARKS: Except for deviations reported on the semi-annual reports and/or this report.			
B116 <u>Acid Rain Sources</u> (20.2.70.302.A.9 NMAC)	☐ Yes Explain Below	☐ No Explain Below	☒ N/A Explain Below
A. If this facility is subject to the federal acid rain program under 40 CFR 72, this section applies.			
B. Where an applicable requirement of the Federal Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Federal Act, both provisions are incorporated into this permit and are federally enforceable.			
C. Emissions exceeding any allowances held by the permittee under Title IV of the Federal Act or the regulations promulgated thereunder are prohibited.			

PART 1 B General Conditions

D. No modification of this permit is required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit modification under any other applicable requirement. E. The permittee may not use allowances as a defense to noncompliance with any other applicable requirement. F. No limit is placed on the number of allowances held by the acid rain source. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Federal Act. G. The acid rain permit is an enclosure of this operating permit.			
REMARKS:			
B117 <u>Risk Management Plan</u> (20.2.70.302.A.1 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. If this facility is subject to the federal risk management program under 40 CFR 68, this section applies. B. The owner or operator shall certify annually that they have developed and implemented a RMP and are in compliance with 40 CFR 68. C. If the owner or operator of the facility has not developed and submitted a risk management plan according to 40 CFR 68.150, the owner or operator shall provide a compliance schedule for the development and implementation of the plan. The plan shall describe, in detail, procedures for assessing the accidental release hazard, preventing accidental releases, and developing an emergency response plan to an accidental release. The plan shall be submitted in a method and format to a central point as specified by EPA prior to the date specified in 40 CFR 68.150.b.			
REMARKS: Except for deviations reported on the semi-annual reports and/or this report.			

Part 2

ACC Deviation Summary Report for Permit P051-R2 & R2M1

1. Are there any deviations identified in Part 1, Column 5. If NO, no further information is required on Part 2 of this form. If YES, answer question 2 below.	☒ Yes ☐ No
2. Have all deviations identified in Part 1, Column 5 been reported to the NMED as required by 20.2.7 NMAC or in a Semi-Annual Monitoring Report (20.2.70.302.E.1 NMAC)? If Yes, no further information is required on Part 2 of this form. If No, answer question 3 below and enter the required information in the Deviation Summary Table for each deviation not yet reported to the NMED.	☐ Yes ☒ No
3. Did any of the deviations result in excess emissions? For excess emissions deviations that have not previously been reported per requirements of 20.2.7 NMAC, a completed Excess Emission Form for each deviation must be attached to this report.	☒ Yes ☐ No

Deviation Summary Table for deviations not yet reported.

No.	Applicable Requirement (Include Rule Citation)	Emission Unit ID(s)	Cause of Deviation	Corrective Action Taken
1	A106.C, A107.C, A107.F Allowable SSM and Malfunction Emissions.	All Flares	Flare monitoring implemented to meet NSPS Ja requirements has resulted in data that is being evaluated with respect to potential exceedences of permit limits. Thus, any excess emissions have not been reported to date.	Navajo is working on evaluating the data and will address any reporting of excess emissions that may be necessary with the NMED.
2				
3				
4				
5				

Deviation Summary Table (cont.)								
	Deviation Started		Deviation Ended					Did you attach an excess emission form?
No.	Date	Time	Date	Time	Pollutant	Monitoring Method	Amount of Emissions	
1	3/1/2016		8/31/2016		NOx,CO,VOC, & SO2	CEMS/Pi Data	Unknown	☒ Yes ☐ No
2								☐ Yes ☐ No
3								☐ Yes ☐ No
4								☐ Yes ☐ No
5								☐ Yes ☐ No



New Mexico Environment Department - Air Quality Bureau
Compliance and Enforcement Section
525 Camino de Los Marquez - Suite 1 - Santa Fe, NM 87505
Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-01	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0400
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	North Plant Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
- ☒ 20.2.70 NMAC (Title V)
- ☐ 40 CFR 60 (NSPS)
- ☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- | | |
|---|--------------------------------|
| ☒ Malfunction | SS or SM Notification: |
| ☐ Startup | Date: |
| ☐ Shutdown | Explain: |
| ☐ Emergency | |
| ☐ Schedule Maintenance | |
| ☒ Title V Deviation | Affirmative Defense Claim: Yes |

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



New Mexico Environment Department - Air Quality Bureau
 Compliance and Enforcement Section
 525 Camino de Los Marquez - Suite 1 - Santa Fe, NM 87505
 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-02	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0401
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	South Plant Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname: Raymond Smalts Office Phone: 575-746-5490 Extn.:
 E-mail Address: ray.smalts@hollyfrontier.com Cell Phone:

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
☐ Startup
☐ Shutdown
☐ Emergency
☐ Schedule Maintenance
☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

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Title: Environmental Specialist

Date: 09/29/2016



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 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-03	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0402
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	FCC Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
- ☒ 20.2.70 NMAC (Title V)
- ☐ 40 CFR 60 (NSPS)
- ☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- | | |
|---|--------------------------------|
| ☒ Malfunction | SS or SM Notification: |
| ☐ Startup | Date: |
| ☐ Shutdown | Explain: |
| ☐ Emergency | |
| ☐ Schedule Maintenance | |
| ☒ Title V Deviation | Affirmative Defense Claim: Yes |

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
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☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

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Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



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 Compliance and Enforcement Section
 525 Camino de Los Marquez - Suite 1 - Santa Fe, NM 87505
 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-04	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0403
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	Alky Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

☒ Malfunction ☐ Startup ☐ Shutdown ☐ Emergency ☐ Schedule Maintenance ☒ Title V Deviation	SS or SM Notification: Date: Explain: Affirmative Defense Claim: Yes
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SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NO_x, SO₂, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

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After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



New Mexico Environment Department - Air Quality Bureau
 Compliance and Enforcement Section
 525 Camino de Los Marquez - Suite 1 - Santa Fe, NM 87505
 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-05	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0404
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	GOHT Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

☒ Malfunction ☐ Startup ☐ Shutdown ☐ Emergency ☐ Schedule Maintenance ☒ Title V Deviation	SS or SM Notification: Date: Explain: Affirmative Defense Claim: Yes
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SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



New Mexico Environment Department - Air Quality Bureau
 Compliance and Enforcement Section
 525 Camino de Los Marquez - Suite 1 - Santa Fe, NM 87505
 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-06	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	Flare Malf Cap
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	Upset and Malfunction Emissions
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

☒ Malfunction ☐ Startup ☐ Shutdown ☐ Emergency ☐ Schedule Maintenance ☒ Title V Deviation	SS or SM Notification: Date: Explain: Affirmative Defense Claim: Yes
--	---

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
-----------	---------------------------	--	----------------------------	-----------------------	--

:

SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



9/29/2017
POSTED

New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375

RECEIVED

OCT 2 2017

Air Quality Bureau



Version 05.02.13

NMED USE ONLY	
TEMPO	SBR 20170029

REPORTING SUBMITTAL FORM

NMED USE ONLY	
Staff	
Admin	dis/baining 10/19/2017

PLEASE NOTE: ® - Indicates required field

TV ACC AUG 2017

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION					
A. ® Company Name: HollyFrontier Navajo Refining LLC			D. ® Facility Name: HollyFrontier Navajo Refining LLC		
B.1 ® Company Address: PO Box 159			E.1 ® Facility Address: 501 E. Main St.		
B.2 ® City: Artesia	B.3 ® State: NM	B.4 ® Zip: 88211-0159	E.2 ® City: Artesia	E.3 ® State: NM	E.4 ® Zip: 88210
C.1 ® Company Environmental Contact: Scott Denton		C.2 ® Title: Environmental Manager	F.1 ® Facility Contact: Scott Denton		F.2 ® Title: Environmental Manager
C.3 ® Phone Number: 575-746-5487		C.4 ® Fax Number: 575-746-5451	F.3 ® Phone Number: 575-746-5487		F.4 ® Fax Number: 575-746-5451
C.5 ® Email Address: Scott.Denton@hollyfrontier.com			F.5 ® Email Address: Scott.Denton@hollyfrontier.com		
G. Responsible Official: (Title V only): Robert K. O'Brien		H. Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	I. Phone Number: 575-748-3311		J. Fax Number: 575-746-5451
K. ® Al Number: 198	L. Title V Permit Number: P051-R2M1	M. Title V Permit Issue Date: 01/22/2016	N. NSR Permit Number: PSD-NM-0195-M37		O. NSR Permit Issue Date: 08/12/2016
P. Reporting Period: From: 09/01/2016 To: 08/31/2017					

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A. ☒	Title V Annual Compliance Certification	Permit Condition(s): A109	Description: Annual Compliance Certification	
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ or NOI No. ☐	Condition(s):	Description:
G. ☐	Requirement of an Enforcement Action	NOV No. ☐ or SFO No. ☐ or CD No. ☐ or Other ☐	Section(s):	Description:

SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Robert K. O'Brien</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: <u>Robert K O'Brien</u>		® Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	® Date: 09/28/2017
		® Responsible Official for Title V? ☒ Yes ☐ No	

Reviewed By: _____

Date Reviewed: _____



September 28, 2017

Enforcement Manager
Air Quality Bureau - Enforcement
NM Environment Department
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-1816

Certified Mail/Return Receipt
7014 3490 0000 6269 6908

**Re: HollyFrontier Navajo Refining LLC
Artesia, NM Refinery
Title V Operating Permits P051-R2M1
Annual Compliance Certification
Agency Interest No. 198
Reporting Period September 1, 2016 through August 31, 2017**

On behalf of HollyFrontier Navajo Refining LLC (Navajo), I am submitting Navajo's annual compliance certification (ACC) for the Artesia, NM Refinery.

Title V Operating Permit P051-R2M1 Reporting Period: September 1, 2016 through August 31, 2017

Consistent with the initial compliance certification, items identified during work practices, such as fugitive component monitoring inspections, that are corrected or repaired within the regulatory timeframe and that are properly documented, do not comprise exceptions or deviations.

Please feel free to contact me at (575) 746-5487 or Ray Smalts at (575) 746-5490 if you have any questions or should require any further information.

Sincerely,

Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC
P.O. Box 159
Artesia, New Mexico 88211-0159
Phone: (575) 746-5487
E-mail: Scott.Denton@hollyfrontier.com

Enclosure

cc: US EPA (w/enc): Chief, Air Permits, U.S. EPA Region 6 (6PD-R), 1445 Ross avenue, Suite 1200, Dallas, TX 75202-2733

Navajo: R. O'Brien, W. Romine, G. Combs, R. Smalts, S. Hammond

Environmental File: 2.10 Annual Compliance Certifications (Title V)\Artesia Certification\2017 Artesia Certification\2017-09-29 Artesia Title V Annual Compliance Certification.pdf

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
(575) 748-3311 • <http://www.hollyfrontier.com>



**New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375**



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NMED USE ONLY	
TEMPO	

REPORTING SUBMITTAL FORM

NMED USE ONLY	
Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION									
A. ® Company Name: HollyFrontier Navajo Refining LLC					D. ® Facility Name: HollyFrontier Navajo Refining LLC				
B.1 ® Company Address: PO Box 159					E.1 ® Facility Address: 501 E. Main St.				
B.2 ® City: Artesia		B.3 ® State: NM	B.4 ® Zip: 88211-0159 ¹		E.2 ® City: Artesia		E.3 ® State: NM	E.4 ® Zip: 88210	
C.1 ® Company Environmental Contact: Scott Denton			C.2 ® Title: Environmental Manager		F.1 ® Facility Contact: Scott Denton			F.2 ® Title: Environmental Manager	
C.3 ® Phone Number: 575-746-5487			C.4 ® Fax Number: 575-746-5451		F.3 ® Phone Number: 575-746-5487			F.4 ® Fax Number: 575-746-5451	
C.5 ® Email Address: Scott.Denton@hollyfrontier.com					F.5 ® Email Address: Scott.Denton@hollyfrontier.com				
G. Responsible Official: (Title V only): Robert K. O'Brien			H. Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC		I. Phone Number: 575-748-3311			J. Fax Number: 575-746-5451	
K. ® AI Number: 198		L. Title V Permit Number: P051-R2M1		M. Title V Permit Issue Date: 01/22/2016		N. NSR Permit Number: PSD-NM-0195-M37		O. NSR Permit Issue Date: 08/12/2016	
P. Reporting Period: From: 09/01/2016 To: 08/31/2017									

SECTION II - TYPE OF SUBMITTAL (check one that applies)

A. ☒	Title V Annual Compliance Certification	Permit Condition(s): A109	Description: Annual Compliance Certification	
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ : or NOI No. ☐ :	Condition(s):	Description:
G. ☐	Requirement of an Enforcement Action	NOV No. ☐ : or SFO No. ☐ : or CD No. ☐ : or Other ☐ :	Section(s):	Description:

SECTION IV - CERTIFICATION

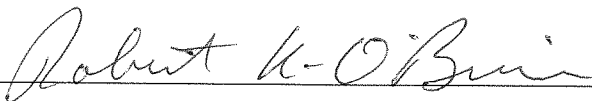
After reasonable inquiry, I <u>Robert K. O'Brien</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: 		® Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	® Date: 09/28/2017
		® Responsible Official for Title V? ☒ Yes ☐ No	

Reviewed By: _____

Date Reviewed: _____

Title V Report Certification Form

I. Report Type			
☒ Annual Compliance Certification ☐ Semi-Annual Monitoring Report ☐ Other Specify:			
II. Identifying Information			
Facility Name: Artesia Refinery			
Facility Address: PO Box 159, Artesia		State: NM	Zip: 88211-0159
Responsible Official (RO): Robert K. O'Brien		Phone: 575-748-3311	Fax: 575-746-5421
RO Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC		RO e-mail:	
Permit No.: P051-R2M1		Date Permit Issued: 01/22/2016	
Report Due Date (as required by the permit): 09/30/2016		Permit AI number: 0198	
Time period covered by this Report: From: 09/01/2016			To: 08/31/2017

III. Certification of Truth, Accuracy, and Completeness	
I am the Responsible Official indicated above. I, <u>Robert K. O'Brien</u>, certify that I meet the requirements of 20.2.70.7.AD NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete. Signature <u></u> Date: <u>09/28/2017</u>	

Title V Annual Compliance Certification for Permit P051-R2 & R2M1

Title (TV) Permit Administration Amendment

On **January 22, 2016** NMED AQB issued an Administrative Amendment to Operating Permit **P052-R2**.

The Administrative Amendment **P051-R2M1** corrected the following:

- **The Department acknowledges the Owner/Permittee name change from Navajo Refining Company, L.L.C. to HollyFrontier Navajo Refining LLC.**

For this is an Administrative Amendment (**P051-R2M1**), the facility can use one Annual Compliance Certification (ACC) Form which will cover both TV Permits.

Although the facility is only required to submit one ACC Form, the facility shall submit **two (2)** separate TV Report Certification Forms. Each form shall list the corresponding TV Permit number, TV Permit Issue Date and Reporting Period.

Please note that this is a one-time authorization. Submittal forms for future Administrative Revisions will be evaluated on a case by case basis.

This form can also be used for future submittal that cover only the **P051-R2M1** permit.

Part 1 - Permit Requirements Certification Table

Annual Compliance Certification Data for Title V Permit No. P051-R2 & R2M1				
1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
FACILITY SPECIFIC REQUIREMENTS A101 Permit Duration (expiration) A. The term of this permit is five (5) years. It will expire five years from the date of issuance. Application for renewal of this permit is due twelve (12) months prior to the date of expiration. (20.2.70.300.B.2 and 302.B NMAC)	Navajo submitted the application for renewal on September 11, 2013.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A101 Permit Duration (expiration) B. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate beyond the expiration date, provided that a timely and complete renewal application is submitted no later than twelve (12) months prior to the expiration date. (20.2.70.400.D NMAC)	Navajo submitted the application for renewal on September 11, 2013.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A102 Facility: Description B. This facility is located in the city limits of Artesia, NM.	This is the location of Navajo refinery.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A103 Facility: Applicable Regulations A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A	This permit condition provides a list of the applicable requirements that are addressed in detail in other permit conditions but does not impose any specific standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4,	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).			

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
NSR Permit No: PSD 0195-M35 (Per 20.2.72 NMAC)	X	Entire Facility
20.2.1 NMAC General Provisions	X	Entire Facility
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.33 NMAC Gas Burning Equipment -- Nitrogen Dioxide	X	Affected sources in <u>Table 103.E</u>
20.2.36 NMAC Petroleum Refinery - Sulfur	X	Entire Facility
20.2.37 NMAC Petroleum Processing Facilities	X	Entire Facility
20.2.38 NMAC Hydrocarbon Storage Facilities	X	Entire Facility
20.2.70 NMAC Operating Permits	X	Entire Facility
20.2.71 NMAC Operating Permit Emission Fees	X	Entire Facility
20.2.72 NMAC Construction Permit	X	Entire Facility
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	Entire Facility
20.2.74 NMAC Prevention of Significant Deterioration	X	Entire Facility
20.2.77 NMAC New Source Performance	X	Units subject to 40 CFR 60
20.2.78 NMAC Emission Standards for Hazardous Air Pollutants (HAPs)	X	Units subject to 40 CFR 61
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Units subject to 40 CFR 63
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility
40 CFR 60, Subpart A, General Provisions	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart Db "Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units"	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Dc "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, Which Construction, Reconstruction, or Modification Commenced After June 9, 1989"	X	H-0464; H-3101
40 CFR 60, Subpart J, "Standards of Performance for Petroleum Refineries"	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Ja, "Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007"	X	See Tables <u>103.B</u> to 103.J

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40 CFR 60, Subpart K, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978"	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"	X	See Tables <u>103.B</u> to 103.k
40 CFR 60, Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984"	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after January 4, 1983, and on or before November 7, 2006.	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart GGGA, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after November 7, 2006.	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	X	See Tables <u>103.B</u> to 103.K
40 CFR 61, Subpart A, General Provisions	X	Entire Facility
40 CFR 61, Subpart FF, National Emission Standards for Benzene Waste Operations	X	Benzene Waste Operations
40 CFR 63, Subpart A, General Provisions	X	Entire Facility
40 CFR 63, Subpart Q, National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers	X	See Table <u>103.F</u>
40 CFR 63, Subpart CC	X	See Tables <u>103.B</u> to 103.K
40 CFR 63 Subpart DDDDD	X	See Tables <u>103.B</u> to 103.K
40 CFR 63 Subpart UUU, Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units	X	See Tables <u>103.B</u> to 103.KJ

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40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	X	See Tables 103.B to 103.KJ
40 CFR 68, (RMP), Section 112(r) Accidental Release	X	Entire Facility
Consent Decree CIV-01 1422LH Lodged 12/20/2001, Entered 3/5/2002	X	Entire Facility

Table 103.B Summary Applicability-Fugitives

Title V Permit Unit ID	Description	20.2.37	MACT CC	NSPS GGG	NSPS GGGa	NSPS QQQ	NESHAP J	NESHAP V	NAV-195-CC ¹
FUG-02-SP CRUDE	South Division Crude Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-05-KERO	Kerosene HDS Unit	NO	NO	NO	NO	YES	NO	NO	NO
FUG-06-NHDU	JP8 Hydrodesulfurization	NO	YES	NO	NO	YES	NO	NO	NO
FUG-07-N AMINE	Amine Unit-Treating/Regen.	YES	NO	YES	NO	YES	NO	NO	YES
FUG-07-SWS1	Sour Water Stripper	YES	NO	YES	NO	YES	NO	NO	NO
FUG-08-TRUCK RK	Loading Racks	NO	YES	NO	YES	YES	NO	NO	NO
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-10-FCC	FCC w/CVS	YES	YES	YES	NO	YES	NO	NO	NO
FUG-13-NHDU	Naphtha HDS Unit	YES	YES	YES	NO	YES	NO	NO	NO
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	NO	YES	NO	NO	YES	NO	NO	NO
FUG-20-ISOM	Powerformer/Penex Unit w/CVS	NO	YES	NO	NO	YES	NO	NO	NO
FUG-21-SP VACUUM	Flasher/Vacuum Unit	NO	NO	NO	YES	YES	NO	NO	NO
FUG-25-ROSE-2	ROSE Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-29-BLENDER/TK FARM	Light Oil Tankage	NO	YES	NO	YES	YES	NO	NO	NO
FUG-31-SRU3/TGTU3/TGI3	SRU3 Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/CVS	YES	YES	YES	NO	YES	NO	NO	NO
FUG-34-HYDROCRACKER	WX Hydrocracker	YES	YES	NO	YES	YES	NO	NO	NO
FUG-35-SAT GAS	Saturates Gas Plant	NO	YES	NO	NO	YES	NO	NO	NO
FUG-41-PBC	PBC Unit	NO	NO	NO	NO	YES	NO	NO	NO
FUG-43-S ALKY	South Alky Unit (W-76)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	YES	NO	NO	YES	NO	NO	NO

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FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	YES	YES	NO	YES	NO	NO	NO	
FUG-63-H2 PLANT-1	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-64-H2 PLANT-2	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-70-CCR	CCR Reformer (w/in battery limits)	YES	YES	YES	NO	YES	NO	NO	NO	
FUG-73-SP UTIL	Utilities	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-80-WWTP CVS	Oil/Water Separator	YES	YES	YES	NO	YES	NO	NO	YES	
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-FUEL GAS	Fuel Gas Distribution System	NO	YES	NO	NO	YES	NO	NO	NO	
FUG-LPG	LPG Storage System	NO	NO	NO	NO	YES	NO	NO	YES	
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/CVS	YES	NO	YES	NO	YES	NO	NO	YES	
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks.	NO	NO	NO	NO	YES	NO	NO	NO	

Table 103.C, Summary Applicability - Tanks

Tank No.	NSPS K	NSPS Ka	NSPS Kb	MACT CC Storage	MACT CC Wastewater	NESHAP FF	NSPS QQQ	20.2.37.205 NMAC	20.2.38.109 NMAC	20.2.38.110 NMAC	20.2.38.112 NMAC	20.2.38.113 NMAC	CA M
RW-4	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
RW-5	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	NO	NO
RW-6	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
T-0001	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0002	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0003	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0004	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
T-0011	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0012	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0013	NO	NO	NO	YES	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0026	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0028	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0031	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0040	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0041	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0042	NO	NO	NO	NO	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0045	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0046	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0049	NO	NO	NO	YES	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0055	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0056	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0057	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0059	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0061	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0063	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0064	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0065	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0071	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0072	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0073	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0074	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0075	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0076	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0078	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0079	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0081	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO

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T-0082	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0106	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0107	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0108	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0109	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0110	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0111	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0112	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0114	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0115	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0116	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0117	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0119	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0124	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0400	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0401	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0402	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0404	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0405	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0409	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0410	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0411	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0412	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0413	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0415	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0417	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0418	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0419	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0420	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0422	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0423	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0431	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0432	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0433	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0434	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0435	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0437	YES	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0438	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0439	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0446	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0447	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0448	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO

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T-0449	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0450	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0453	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0460	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0465	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0466	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0467	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0468	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0600	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0737	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	NO
T-0802	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	NO
T-0803	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0804	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0807	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0809	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0810	NO	NO	NO	NO	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0814	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0815	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0816	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0830	NO	NO	YES	NO	YES	YES	YES	YES	NO	NO	YES	NO	NO
T-0834	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0835	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0838	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0839	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0840	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0841	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0891	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0892	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1221	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1222	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1223	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1224	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-1225	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-1227	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
BioDiesel	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
Ethanol	NO	NO	YES	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO

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Table 103.D, Summary Applicability											
Unit ID	Description	MACT CC		20.2.37.205.C		MACT BBBBBB		MACT CCCCCC		CAM	
TL-4	Fuels Truck Loading Rack	YES		NO		NO		NO		NO	
TL-7	CBO/LCO Truck Loading Rack	NO		NO		NO		NO		NO	
RLO-8	Railcar Loading & Off-Loading Rack	NO		NO		NO		NO		NO	

Table 103.E, Summary Applicability – Heaters and Boilers											
Unit ID	Description	NSPS D	NSPS Db	NSPS Dc	NSPS J	NSPS Ja	MACT DDDDD	20.2.33.108 NMAC	20.2.36 NMAC	20.2.37 NMAC	CAM
B-0007	Boiler 7	NO	YES	NO	YES	NO	YES	YES	YES	YES	NO
B-0008	Boiler 8	NO	YES	NO	YES	NO	YES	YES	YES	YES	NO
B-0009	Boiler 9	NO	YES	NO	NO	Yes	YES	YES	YES	YES	NO
H-0009	Unit 13 Naphtha Splitter Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0011	Unit 21 Vacuum Unit Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0018	Unit 06 HDS Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0019	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0020	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0028	Unit 21 Heater H-28	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0030	Unit 06 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0040	Unit 13 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0303	Unit 05 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0312	Unit 10 FCC Feed Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0352	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0353	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0354	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0355	Unit 70 Stabilizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0362	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0363	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO

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H-0364	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0421	Unit 44 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0464	SRU Hot Oil Heater	NO	NO	YES	YES	NO	NO	NO	YES	YES	NO
H-0473	SRU1 and SRU2 Tail Gas Incinerator	NO	NO	NO	YES	NO	NO	NO	YES	YES	NO
H-0600	Unit 09 Depropanizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0601	Unit 33 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-2421	Unit 45 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-8801/ H-8802	Unit 63 Hydrogen Plant Reformer	NO	NO	NO	YES	NO	YES	YES	YES	YES	NO
H-3402	Unit 34 Hydrocracker Reboiler 1	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO
H-3403	Hydrocracker Reactor Charge Heater	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO
H-9851	Unit 64 Hydrogen Plant Reformer	NO	NO	NO	NO	YES	YES	YES	YES	YES	NO
H-2501	Unit 25 ROSE [®] Unit No.2 Hot Oil Heater	NO	YES	NO	NO	YES	YES	YES	YES	YES	NO
H-3101 (formerly SRU3- HOH)	SRU3 Hot Oil Heater	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO
SRU3-TGI	SRU3 Tail Gas Incinerator	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO

Table 103.F, Summary Applicability – Cooling Towers

Cooling Tower	Description	MACT Q	MACT CC	CAM
Y-0001	TCC Cooling Tower	YES	YES	NO
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	YES	YES	NO
Y-0008	North Alky Cooling Tower	YES	YES	NO
Y-0011	FCC & NP Cooling Tower	NO	YES	NO
Y-0012	Hydrogen Plants Cooling Tower	NO	YES	NO
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	NO	NO	NO

Table 103.G, Summary Applicability – Wastewater

Equipment ID	Emission Point ID	MACT CC Wastewater	NESHAP FF	NSPS QQQ	CAM
MAIN API	D-0829/0830	YES	YES	YES	NO
DAF-0896	DAF-0896	YES	YES	NO	NO
DAF-0806	DAF-0806	YES	YES	NO	NO
T-0801		YES	YES	NO	NO
T-0805		YES	YES	NO	NO
T-0829		YES	YES	NO	NO
T-0836		YES	YES	NO	NO
T-0897		YES	YES	NO	NO

Table 103.H, Summary Applicability – FCC-CCR

Unit ID	NSPS J	NSPS Ja	MACT UUU	20.2.37 NMAC	CAM
FCCREGEN	YES	NO	YES	YES	YES - Satisfied by MACT UUU
CCR	N/A	N/A	YES	N/A	NO

Table 103.I, Summary Applicability – SRU

Source ID	Emission Point ID	Description	NSPS J	NSPS Ja	MACT UUU	20.2.36.113.A(1)(d) & 20.2.36.113.A(1)(e)	20.2.37.200B	20.2.37.202.A	20.2.39	CAM
SRU1	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU
SRU2	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU
SRU3	SRU3-TGI	SRU3 Tail Gas Incinerator	NO	YES	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU

Table 103.J, Summary Applicability – Engines

Source ID	Description	NSPS IIII	MACT ZZZZ	20.2.61.109 NMAC	20.2.61.114 NMAC	CAM
E-0600W	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0601M	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0602E	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0603	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0901	Fire Water Pump Engine	YES	YES	YES	YES	NO
G-0100	UPS backup generator	NO	YES	YES	YES	NO
G-0101	UPS backup generator	NO	YES	YES	YES	NO
V-0543	Portable Air Compressor	YES	YES	YES	YES	NO
V-0545	Portable Air Compressor	YES	YES	YES	YES	NO
V-0546	Portable Air Compressor	YES	YES	YES	YES	NO
E-8010	WWTP Emergency Engine	YES	YES	YES	YES	NO

Table 103.K, Summary Applicability – FLARES

Unit ID	Description	NSPS A	NSPS J	NSPS Ja	NESHAP A	MACT A	20.2.36.112 NMAC	20.2.36.113b NMAC	20.2.37.201B NMAC
FL-400	North Plant Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-401	South Plant Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-402	FCCU Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-403	Alky Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-404	GOHT Flare	YES	NO	YES	NO	YES	YES	YES	YES

All flares are steam assisted.

State of New Mexico requires that an exit gas velocity of 65 ft/sec for modeling.

The heating value of the gas for all flares is < 1000 BTU/scf.

A103 Facility: Applicable Regulations M. Compliance with the terms and conditions of this permit regarding source emissions and operation demonstrate compliance with national ambient air quality standards specified at 40 CFR 50, which were applicable at the time air dispersion modeling was performed for the facility's NSR Permit 0195-M35.	This permit condition provides a list of the applicable requirements that are addressed in detail in other permit conditions but does not impose any specific standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A104 Facility: Regulated Sources A. Table 104.A lists the emission units authorized for this facility. Emission units identified as insignificant or trivial activities (as defined in 20.2.70.7 NMAC) and/or equipment not regulated pursuant to the Act are not included.	This permit condition provides a list but does not impose any standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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	information).			
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Table 104.A: Regulated Sources List

Unit No.	Unit Type	Manufacturer	Model No.	Manufacture Date	Capacity
B-0007	Boiler 7	Todd/John Zink burners	Unknown	10/8/2001 *	215 MMBtu/hr (LHV Basis)
B-0008	Boiler 8	Todd/John Zink burners	Unknown	2003 *	215 MMBtu/hr (LHV Basis)
B-0009	Boiler 9	Babcock & Wilcox	TBD	TBD	220 MMBtu/hr (LHV Basis)
E-8010	WWTP Diesel Pump Engine	John Deere	6090HF485/ RG6090L101484	2/2011	400 hp
E-0600W	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113548	7/2012	376 hp
E-0601M	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113561	7/2012	376 hp
E-0602E	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113574	7/2012	376 hp
E-0603	Fire Water Pump Engine	Clarke Diesel (John Deere)	JU6H-UFADX8/ PE6068L228486	2012	305 hp
E-0901	Fire Water Pump Engine	Clarke Diesel (John Deere)	JX6H-UF30' RG6125A016118	10/2007	430 hp
G-0100	UPS backup generator	Deutz	F4L912GEN/ Engine Family WDZXL05.7010	1998	52 hp
G-0101	UPS backup generator	Deutz	F4L 1011 F/ EI97-68CA00-000-0053	1999	54 hp
V-0543	Portable Air Compressor	Cummings, Inc.	QSC, 73104611	8/30/2010	260 hp
V-0545	Portable Air Compressor	Cummings, Inc.	QSC, 73142120	4/8/2011	260 hp
V-0546	Portable Air Compressor	Cummings, Inc.	QSC, 46917364	11/19/2008	240 hp
H-0009	Unit 13 Naphtha Splitter Reboiler	Zeeco burners	GSFW-12 burners	Unknown	44 MMBtu/hr (LHV Basis)
H-0011	Unit 21 Vacuum Flasher Heater	Unknown	Unknown	Unknown	38 MMBtu/hr (LHV Basis)
H-0018	Naphtha HDS Reboiler	Zeeco burners	GSFW-8 burners	Unknown	32 MMBtu/hr (LHV Basis)
H-0019	South Crude Charge Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2005	54 MMBtu/hr (LHV Basis)
H-0020	South Crude Charge Heater	Callidus Technologies, LLC burners	CUBL-12W burners	New burners in 2005	78 MMBtu/hr (LHV Basis)
H-0028	Unit 21 Heater H-28 (previously H-10)	John Zink burners	PSFG-12 burners	Unknown	12.3 MMBtu/hr (LHV Basis)
H-0030	Unit 06 Charge Heater	John Zink burners	PSFG-16R burners	2000*	42 MMBtu/hr (LHV Basis)
H-0040	Unit 13 Charge Heater	John Zink burners	PSFG-16 burners	1990*	42 MMBtu/hr (LHV Basis)
H-0303	Unit 05 Charge Heater	John Zink burners	HEVD-Q-18 burners	1982*	11 MMBtu/hr (LHV Basis)
H-0312	Unit 10 FCC Feed Heater	John Zink burners	VYD-18 burners	1990*	35 MMBtu/hr (LHV Basis)
H-0352	Unit 70 CCR Heater (previously 70-H1)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	63 MMBtu/hr (LHV Basis)
H-0353	Unit 70 CCR Heater (previously 70-H2)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	81 MMBtu/hr (LHV Basis)
H-0354	Unit 70 CCR Heater (previously 70-H3)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	56 MMBtu/hr (LHV Basis)
H-0355	Unit 70 Stabilizer Reboiler Heater H-355 (previously 70H-4)	John Zink burners	Unknown	1991*	24 MMBtu/hr (LHV Basis)
H-0362	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2006	40 MMBtu/hr (LHV Basis)
H-0363	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2006	50 MMBtu/hr (LHV Basis)

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H-0364	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-6W burners	New burners in 2006	35 MMBtu/hr (LHV Basis)
H-0421	Unit 44 Charge Heater (previously H-21)	John Zink burners	LNC-PC-18 burners	1981*	27 MMBtu/hr (LHV Basis)
H-0464	SRU Hot Oil Heater	Callidus Technologies, LLC burners	LE-CSG-4W burners	2003*	9.6 MMBtu/hr (LHV Basis)
H-0600	Depropanizer Reboiler Heater (previously 3F-1)	Callidus Technologies, LLC burners	CUBL-12W burners	1991*, New burners in 2009	84 MMBtu/hr (LHV Basis)
H-0601	Unit 33 Charge Heater	Callidus Technologies, LLC burners	CUB-8P-CW burners	New burners in 2003	78 MMBtu/hr (LHV Basis)
H-2421	Unit 45 Charge Heater	Zeeco, Inc. burners	GLSF-14 Round Flame "Free Jet" burners	2006*	27 MMBtu/hr (LHV Basis)
H-8801	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-8802	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-2501	ROSE2 Hot Oil Heater	John Zink Company, LLC burners	COOLstar-18 burners	2009*	120 MMBtu/hr (LHV Basis)
H-3403	Hydrocracker Reactor Charge Heater	Callidus Technologies, LLC burners	CUBL-10W burners	TBD	32.0 MMBtu/hr (LHV Basis)
H-3402	Hydrocracker Fractionator Reboiler 1	Callidus Technologies, LLC burners	LE-CSG-12W burners	2009*	52 MMBtu/hr (LHV Basis)
H-9851	Unit 64 Hydrogen Plant Reformer	Callidus Technologies, LLC burners	CUBL-3WDF burners	2009*	337 MMBtu/hr (LHV Basis)
H-3101	SRU3 Hot Oil Heater	Callidus Technologies, LLC burner	Unknown	05/11/2009 *	9.6 MMBtu/hr (LHV Basis)
H-0473 (SRU1/SRU2 TGI)	SRU1 and SRU2 Tail Gas Incinerator	Unknown	Unknown	Unknown	NA
SRU3-TGI	SRU3 Tail Gas Incinerator	Callidus Technologies, LLC burners	Unknown	05/11/2009 *	NA
FCC Regenerator	FCC Regenerator Scrubber	Unknown	Unknown	Unknown	NA
CCRr	CCR Reformer	Unknown	Unknown	Unknown	NA
FL-0400, North Plant Flare	North Plant Flare	Unknown	Unknown	Unknown	NA
FL-0401, South Plant Flare	South Plant Flare	Unknown	Unknown	Unknown	NA
FL-0402, FCC Flare	FCC Flare	Unknown	Unknown	Unknown	NA
FL-0403, Alky Flare	Alky Flare	Unknown	Unknown	Unknown	NA
FL-0404, GOHT Flare	GOHT Flare	Unknown	Unknown	Unknown	NA
Y-0001	TCC Cooling Tower	Unknown	Unknown	Unknown	5,000 gpm, 0.003% drift
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	Unknown	Unknown	Unknown	5,000 gpm, 0.003% drift
Y-0008	North Alky Cooling Tower	Unknown	Unknown	Unknown	12,500 gpm, 0.003% drift
Y-0011	FCC & NP Cooling Tower	Unknown	Unknown	Unknown	30,000 gpm, 0.001% drift
Y-0012	Hydrogen Plants Cooling Tower	Unknown	Unknown	Unknown	10,000 gpm, 0.001% drift
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	Unknown	Unknown	Unknown	3,000 gpm, 0.003% drift
MAIN API	Above Ground API Oil-Water Separator	Unknown	Unknown	Unknown	1,200 gpm
T-0896	DAF Unit T-0896	Unknown	Unknown	Unknown	1,200 gpm
T-0801	Enhanced Biodegradation Tank T-0801	Unknown	Unknown	Unknown	1,200 gpm
T-0836	Enhanced Biodegradation Tank T-0836	Unknown	Unknown	Unknown	1,200 gpm
T-0829	Equalization Tank T-0829	Not yet installed	Not yet installed	Not yet installed	1,200 gpm
T-0806	DAF Unit T-0806	Not yet installed	Not yet installed	Not yet installed	Not yet installed
Fugitives (see Table 103.B)	Equipment component leaks (pump seals, valves, flanges, etc.)	NA	NA	Varies	NA
Loading (see Table 103.D)	Bulk Loading/Unloading Racks	NA	NA	Varies	Varies
Tanks (see Table 103.C)	Fixed Roof, External Floating Roof & Internal Floating Roof Tanks	NA	NA	Varies	Varies
* Installation date					

Note: Serial numbers are not used since most equipment consists of field erected parts that are assembled on site and may have several "serial numbers" for various components. Heaters are the best example because each of the burners has a serial number but the heater as a whole does not have a single serial number. The heater as a whole is typically identified by our equipment number. There may also be a "project number" or "job number" from the manufacturer, but that can change if a heater is revamped at a later date such as when they modify the convection section to improve energy efficiency.

A105 Facility: Control Methods

A. Table 105.A lists all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.

This permit condition provides a list but does not impose any standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).

☐ Continuous
☒ Intermittent

☒ Yes
☐ No

☐ Yes
☒ No

Table 105.A: Control Methods:

Control Equipment Unit No.	Control Description	BACT Yes or No	Pollutant being controlled	Control for Unit Number(s) ¹
FCC Regenerator Scrubber	Fluid Catalytic Cracking Unit Regenerator Cyclones + Wet Gas Scrubber	NO	PM & SO ₂	FCC Regenerator
CHLOR SORB [®]	CCR Regenerator Vent Control	NO	Chloride	CCR Regenerator Vent
FL-0400	North Plant Flare	NO	VOC & H ₂ S	Refinery process units

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FL-0401	South Plant Flare	NO	VOC & H ₂ S	Refinery process units
FL-0402	FCC Flare	NO	VOC & H ₂ S	Refinery process units
FL-0403	Alky Flare	NO	VOC	Refinery process units
FL-0404	GOH Flare	NO	VOC & H ₂ S	Refinery process units
FL-HEP-PORT	Portable Flare for Holly Energy Partners (HEP) Pipeline Pigging Operations	NO	VOC	Pipeline Pigging Operations
H-0473	Sulfur Recovery Units No. 1 & 2 Tail Gas Incinerator	NO	Sulfur	SRU1 and SRU2
SCR	Selective Catalytic Reduction + ultra-low NO _x burners	YES	NO _x	H-9851
SRU3-TGI	Sulfur Recovery Unit No. 3 Tail Gas Incinerator	YES	Sulfur	SRU3
SRU3/TGTU3/TGI3	Best Work Practices, <u>A207.B</u> (BACT)	YES	SO ₂	SRU3
D-0829/0830	Main API Carbon Canisters	NO	VOC	MAIN API
Y-0011, Y-0012	Drift Eliminators on Cooling Towers (BACT)	YES	PM	Y-0011, Y-0012

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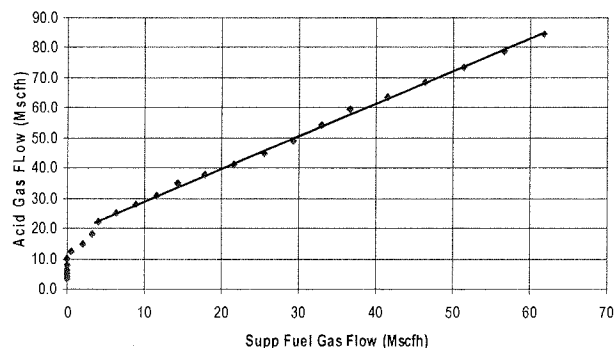
T-0737, T-1225	External Floating Roofs (BACT)	YES	VOC	T-0737, T-1225
See <u>Tables 106.B(1) and (2)</u>	External and Internal Floating Roofs (None-BACT)	NO	VOC	See Tables 106.B(1) and (2)
B-0009	Energy Efficiency, A204.N (BACT)	Yes	Greenhouse Gases	B-0009
H-2501, H-3402, H-3101	ultra-low NOx burners (BACT)	Yes	NOx	H-2501, H-3402, H-3101
SRU-TGI, H-2501, H-3402, H-3101	Combust gaseous fuels only	Yes	VOC, PM	SRU-TGI, H-2501, H-3402, H-3101

1 Control for unit number refers to a unit number from the Regulated Equipment List

- B. In accordance with the requirement that Navajo Refining prevent exceedances of the 24-hour and 3-hour National Ambient Air Quality Standards (NAAQS) for SO₂ during major refinery malfunctions, Navajo Refining shall only flare acid gas from existing Flare FL-0403 according to Navajo Refining's "Phase Two" plan dated January 5, 1996 and received by the Department on January 8, 1996, or from Flare FL-0400. Navajo shall undertake the following measures for acid gas flaring from FL-0400 and FL-0403.

CHART NO. 1

SUPP FUEL FOR SO₂ NAAQS COMPLIANCE, FL-400

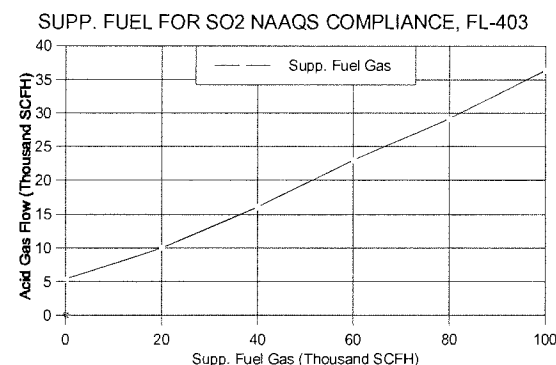


(1) Existing Flare FL-0400 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough heat to supplement the

heat released by combustion of the acid gas itself and the heat provided by smoke-suppressing steam. The minimum flow rate of supplemental fuel gas to be supplied during acid gas flaring such that compliance with the NAAQS for SO₂ is assured shall be determined using Chart No. 1. The fuel gas used for this purpose shall be natural gas (see definition at C101.F).

- (2) Existing Flare FL-0403 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough supplemental heat. The volume of supplemental fuel gas to be provided to generate enough supplemental heat to ensure compliance with NAAQS for SO₂ shall be determined using Chart No. 2. The supplemental heat to be provided when flaring the maximum quantity of acid gas has been determined to be 52.9 million BTU per hour which is generated by burning 96,200 SCFH of supplemental fuel gas. This assumption has been made to ensure compliance with the NAAQS for SO₂. The fuel gas used for this purpose shall be natural gas (see definition at C101.F).

CHART NO. 2



- C. Beginning December 20, 2001 no fuel oil shall be burned in combustion units except as follows: (CD ¶17.C)
- (1) Torch Oil may be burned in the FCC Regenerator during FCC start-ups; and.
 - (2) Fuel Oil may be burned in combustion units after the establishment of FCC NO_x emissions limits pursuant to permit condition A110.A, provided that emissions from any such combustion units are routed through the FCC Wet Gas Scrubber and Navajo demonstrates, with the approval of EPA, that the NO_x emissions limits contained therein and the SO₂ emissions limits stated in A106.A and A107.A will continue to be met.
- D. The Artesia Refinery FCC was initially limited to less than 20,000 BPD capacity. Following the December 2003 expansion of the Artesia refinery's FCC as authorized by permit 195-M15, the catalyst regenerator for the FCC is subject to the minimum requirements for continuous emission monitoring and recording set forth in Appendix P to 40 CFR Part 51. Consent Decree Paragraph 15 required the FCC to be subject to NSPS Subpart J for opacity as of December 31, 2003. A wet gas scrubber was installed in 2003. An Alternative Monitoring Plan (AMP) request was submitted to EPA on December 31, 2003 because a continuous opacity monitoring system (COMS) will not work on a wet gas scrubber exhaust because of the interference from the water vapor. The AMP satisfies the requirements for both NSPS Subpart J and 40 CFR Part 51 Appendix P

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A106 Facility: Allowable Emissions A. The following Section lists the emission units, and their allowable emission limits. (See Table 103.A for all applicable regulations)	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
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Table 106.A: Allowable Emissions

Source ID	^{3,5} MM Btu/hr	SO ₂		² NO _x			CO		⁵ (lb/MM Btu LHV)	⁴ PM		VOC	
		⁵ (lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu)	⁵ (lb/hr)	(ton/yr)		(lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)
B-0007	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7		1.8	7.8	1.3	5.6
B-0008	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7		1.8	7.8	1.3	5.6
B-0009	220	2.6	11.4	4.4	19.3	0.02 BACT	8.1	35.7		1.6	7.2	0.9	3.9
H-0009	44	1.6	2.6	4.0	17.3	0.09	4.0	17.5		0.4	1.6	0.3	1.2
H-0011	38	1.4	2.3	9.5	31.6	-	3.5	15.2		0.3	1.4	0.2	1.0
H-0018	32	1.2	1.9	3.5	15.2	-	2.9	12.8		0.3	1.2	0.2	0.8
H-0019	54	2.0	3.2	2.9	12.5	0.0527	4.9	21.5		0.4	2.0	0.3	1.4
H-0020	78	2.8	4.6	4.2	18.3	0.0535	7.1	31.1		0.6	2.8	0.5	2.0
H-0028	12.3	0.4	0.7	2.2	9.5	-	1.1	4.9		0.1	0.4	0.1	0.3
H-0030	42	1.5	2.5	3.2	14.0	-	3.8	16.8		0.4	1.5	0.3	1.1
H-0040	42	1.5	2.5	3.8	16.6	-	3.8	16.8		0.4	1.5	0.3	1.1
H-0352/0353/0354	63/81/56	7.3	11.8	9.0	39.4	0.045	18.2	79.7		1.7	7.2	1.2	5.2
H-0355	24	0.9	1.4	2.2	9.5	-	2.2	9.6		0.2	0.9	0.1	0.6
H-0303	11	0.4	0.7	1.2	5.2	-	1.0	4.4		0.1	0.4	0.1	0.3
H-0312	35	1.3	2.1	4.6	20.2	-	3.2	14.0		0.3	1.3	0.2	0.9
H-0362/0363/0364	40/50/35	4.6	7.4	6.9	30.1	0.055	11.4	49.8		1.0	4.5	0.7	3.3
H-0421	27	1.0	1.6	2.4	10.6	0.09	2.5	10.8		0.2	1.0	0.2	0.7
H-0464	9.6	0.4	0.6	0.5	2.3	-	0.9	3.8		0.1	0.4	0.1	0.3
H-0600	84	3.1	5.0	4.7	20.3	0.05	7.6	33.5		0.7	3.03	0.5	2.2
H-0601	78	2.8	4.6	3.5	15.4	0.045	7.1	31.1		0.6	2.8	0.5	2.0
H-2421	27	1.0	1.6	1.2	5.3	0.045	2.5	10.8		0.2	1.0	0.2	0.7
H-8801/8802	60/60	0.2	0.8	4.2	18.4	0.035	10.9	47.8		1.0	4.3	0.7	3.1
H-2501	120	4.4	7.1	3.6	15.8	0.03	7.2	31.5	0.09 BACT	1.0	4.3	0.7	3.1
H-3402	52	1.9	3.1	1.6	6.8	0.03	4.7	20.7	0.09 BACT	0.4	1.9	0.3	1.4

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H-3403	32.0	1.2	1.9	1.0	4.2	0.03	2.9	12.8		0.3	1.2	0.2	0.8
H-9851	337	0.5	2.2	4.2	18.5	0.0125 BACT	20.2	88.6	0.06 BACT	2.8	12.2	2.0	8.8
H-3101	9.6	0.4	0.6	0.3	1.3	0.03	0.9	3.8	0.09 BACT	0.1	0.4	0.1	0.3
H-0473 (SRU1/SRU2 TGI)	NA	30.0	81.8	6.5	28.5	N/A	27.7	121.2		0.5	2.2	0.1	0.6
SRU3-TGI	NA	30.0	81.8	6.5	28.5	N/A	15.0	65.7		0.5	2.2	0.1	0.6
FCC Regenerator	NA	27.9	61.0	35.0	101.9	N/A	121.9	106.8		25.0	109.5	-	-
FL-0400, North Plant Flare	NA	0.2	0.5	0.2	0.8	N/A	1.0	4.3		0.0	0.0	0.2	0.7
FL-0401, South Plant Flare	NA	0.1	0.1	<0.1	0.2	N/A	0.2	1.1		0.0	0.0	<0.1	0.2
FL-0402, FCC Flare	NA	0.1	0.1	<0.1	0.2	N/A	0.2	1.1		0.0	0.0	<0.1	0.2
FL-0403, Alky Flare	NA	<0.1	<0.1	<0.1	<0.1	N/A	<0.1	0.2		0.0	0.0	<0.1	<0.1
FL-0404, GOHT Flare	NA	2.4	10.5	4.1	18.1	N/A	13.6	59.6		0.0	0.0	2.3	10.2
Subtotal			345.4		668.8			1156.2			196.0		70.2
Tanks, Table 106.E													322.4
Fugitives, Table 106.F													994.6
Misc Sources, Table 106.G													16.6
Cooling Towers, Table 106.H								2.5			9.0		56.2
Oil/Water Separators, Table 106.I												5.3	9.5
⁶ SSM, Table 107			27.4		31.6			97.6			0.4		46.2
TOTAL ¹	NA		372.8		700.4	N/A		1256.3			205.3		1515.7

¹ Totals are for information and are not enforceable conditions.² Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO₂³ lbs-NO_x/MMBtu of heat input, calculated as a 3-hour average, when firing natural gas at 3% stack oxygen at full design load without air preheat.⁴ All Particulate Matter emitted is assumed to be of aerodynamic diameter 10 microns or less.⁵ Hourly emission limits and lb/MM Btu limits are based on a hourly rolling 3-hour average.⁶ Maximum allowable emissions during maintenance, startup, or shutdown (SSM) and malfunction activities.

“-“ indicates that in accordance with the application, emissions of this pollutant are not expected.

“- -“ indicates that the emissions are less than 1.0 pph or 1.0 tpy and emission limits are not required for this permit, unless it's for a control device.

Unit 9851, the SCR exhaust has Ammonia Slip limit of 7 ppmv on a wet basis and 6.1 tpy (BACT).

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A106 Facility: Allowable Emissions B. The permitted emission sources at the refinery shall consist only of the sources listed in Table 106.A and <u>Tables 106.B through 106.I</u> of this permit.		Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.		☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
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INTERNAL FLOATING ROOF STORAGE TANKS			
TABLE 106.B(1) VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC)			
Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored ¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0056	Naphthas	High Vapor Pressure ²	11.0
T-0106	Distillates	High Vapor Pressure ²	11.0
T-0107	Gasolines	High Vapor Pressure ²	11.0
T-0108	Gasolines	High Vapor Pressure ²	11.0
T-0109	Gasolines	High Vapor Pressure ²	11.0
T-0111	Naphthas	High Vapor Pressure ²	11.0
T-0112	Naphthas	High Vapor Pressure ²	11.0
T-0011	Gasolines	High Vapor Pressure ²	11.0
T-0124	Gasolines	High Vapor Pressure ²	11.0
T-0012	Gasolines	High Vapor Pressure ²	11.0
T-0413	Distillates	High Vapor Pressure ²	11.0
T-0415	Gasolines	High Vapor Pressure ²	11.0
T-0417	Gasolines	High Vapor Pressure ²	11.0
T-0439	Crude Oil	High Vapor Pressure ²	11.0

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

EXTERNAL FLOATING ROOF STORAGE TANKS**TABLE 106.B(2) VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC) -**

Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored ¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0057	Naphthas	High Vapor Pressure ²	11.0
T-0078	Isomerates	High Vapor Pressure ²	11.0
T-0079	Isomerates	High Vapor Pressure ²	11.0
T-0117	Gasolines	High Vapor Pressure ²	11.0
T-0401	Gasolines	High Vapor Pressure ²	11.0
T-0402	Gasolines	High Vapor Pressure ²	11.0
T-0411	Gasolines	High Vapor Pressure ²	11.0
T-0412	Gasolines	High Vapor Pressure ²	11.0
T-0435	Crude Oil	High Vapor Pressure ²	11.0
T-0437	Crude Oil	High Vapor Pressure ²	11.0
T-0450	Naphthas	High Vapor Pressure ²	11.0
T-0802	Sour Water	High Vapor Pressure ²	11.0
T-0830	Slop	High Vapor Pressure ²	11.0
T-0834	Distillates	Moderate Vapor Pressure ³	1.5
T-0835	Distillates	High Vapor Pressure ²	11.0
T-1225	Naphthas	High Vapor Pressure ²	11.0
T-0737	Sour Water	High Vapor Pressure ²	11.0
TK-NEWETHANOL	Ethanol	High Vapor Pressure ²	2.32

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomerate, Straight Run Gasoline, and other refinery feedstocks, intermediates products byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

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FIXED ROOF STORAGE TANKS TABLE 106.C VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)			
Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored ¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0013	Slop	Moderate Vapor Pressure ³	1.5
T-0040	Distillates	Low Vapor Pressure ⁴	0.5
T-0041	Distillates	Low Vapor Pressure ⁴	0.5
T-0110	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0400	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0404	Carbon Black Oil (CBO)	Low Vapor Pressure ⁴	0.5
T-0405	CBO	Low Vapor Pressure ⁴	0.5
T-0409	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0410	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0418	Distillates	Low Vapor Pressure ⁴	0.5
T-0419	Distillates	Low Vapor Pressure ⁴	0.5
T-0420	CBO	Low Vapor Pressure ⁴	0.5
T-0422	Distillates	Low Vapor Pressure ⁴	0.5
T-0423	Distillates	Low Vapor Pressure ⁴	0.5
T-0431	Distillates	Low Vapor Pressure ⁴	0.5
T-0432	Distillates	Low Vapor Pressure ⁴	0.5
T-0049	Slop	Moderate Vapor Pressure ³	1.5
T-0055	Distillates	Low Vapor Pressure ⁴	0.5
T-0058	Distillates	Low Vapor Pressure ⁴	0.5
T-0059	CBO	Low Vapor Pressure ⁴	0.5
T-0061	Distillates	Low Vapor Pressure ⁴	0.5
T-0063	CBO	Low Vapor Pressure ⁴	0.5

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T-0065	CBO	Low Vapor Pressure ⁴	0.5
T-0075	CBO	Low Vapor Pressure ⁴	0.5
T-0433	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0434	Distillates	Low Vapor Pressure ⁴	0.5
T-0438	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0810	Slop	Moderate Vapor Pressure ³	1.5
T-0814	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0815	Distillates	Low Vapor Pressure ⁴	0.5
T-0838	Distillates	Low Vapor Pressure ⁴	0.5
T-1227	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0081	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0082	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
RW-4	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-5	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-6	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
TK-NEWBIODIES EL	Biodiesel	Low Vapor Pressure ⁴	0.022

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

⁴ Low Vapor Pressure Liquids include: Diesel (raw or finished), Kerosene (raw or finished), JP-8, CBO, LCO, Slurry, Heavy Slop, Cutback Asphalt, Cutter, VGO, AGO, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure less than 0.5 psia under actual storage conditions.

TABLE 106.D – STORAGE TANK THROUGHPUT AND TEMPERATURE LIMITS

Material	Throughput (bbl/yr)	Maximum Storage Temperature (°F)
Asphalt/Pitch	30,872,000	510
Carbon Black Oil (CBO)	1,291,610	250
Crude Oil	76,212,000	Ambient

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Distillate	55,076,590	310
Gas Oil	25,059,500	310
Gasoline (includes isomerates)	57,910,908	Ambient
Naphtha	39,028,084	Ambient
Slop	1,330,000	Ambient
Sour Water	45,051	Ambient
BioDiesel	949,000	Ambient
Methanol	142,350	Ambient

TABLE 106.E– STORAGE TANK VOC AND H₂S EMISSION LIMITS¹ (return to A203)

Tank Type	VOC Emission Rate (tpy)	H ₂ S Emission Rate (tpy)
Fixed-Roof	238.6	0.0
Floating-Roof	83.8	1.47
Total Tanks	322.4	1.47

¹ The permittee shall demonstrate compliance with the above throughputs and emission limits through the annual emissions inventory process. Specific tank data (e.g. temperature & throughputs) shall be monitored and recorded weekly by the permittee.

Table 106.F, ¹EMISSIONS LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC) FUGITIVE EMISSIONS FROM EQUIPMENT LEAKS

Process Unit ID Number	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
FUG-02-SP CRUDE	South Division Crude Unit	10.2	44.6
FUG-10-FCC	FCC w/CVS	10.8	47.2
FUG-20-ISOM	Powerformer/Penex Unit w/CVS	5.9	25.7
FUG-21-SP VACUUM	Flasher/Vacuum Unit	3.2	13.9
FUG-05-KERO	Kerosene HDS Unit	5.2	22.7
FUG-06-NHDU	JP8 Hydrodesulfurization	7.1	30.9
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	3.5	15.3
FUG-35-SAT GAS	Saturates Gas Plant	18.3	80.0
FUG-29-BLENDER/TK FARM	Light Oil Tankage	6.8	29.6
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	3.5	15.3
FUG-FUEL GAS	Fuel Gas Distribution System	4.2	18.2

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FUG-LPG	LPG Storage System	21.6	94.4
FUG-41-PBC	PBC Unit	3.4	14.7
FUG-70-CCR	CCR Reformer (w/in battery limits)	23.4	102.3
FUG-13-NH DU	Naphtha HDS Unit	10.2	44.6
FUG-43-S ALKY	South Alky Unit (W-76)	1.7	7.5
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	12.0	52.5
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	9.3	40.6
FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	2.6	11.2
FUG-07-N AMINE	Amine Unit-Treating/Regen.	6.3	27.5
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/ CVS	2.4	10.4
FUG-07-SWS1	Sour Water Stripper	1.6	7.0
FUG-80-WWTP CVS	Oil/Water Separator	1.3	5.5
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/ CVS	12.9	56.4
FUG-08-TRUCK RK	Loading Racks	2.8	12.1
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	0.7	2.9
FUG-73-SP UTIL	Utilities	16.7	73.3
FUG-63-H2 PLANT-1	Hydrogen Plant	2.6	11.2
FUG-31-SRU3/TGTU3/TGI3	SRU3 Unit	0.7	3.1
FUG-34-HYDROCRACKER	WX Hydrocracker	6.2	27.2
FUG-25-ROSE-2	ROSE Unit	8.0	35.1
FUG-64-H2 PLANT-2	Hydrogen Plant	2.6	11.2
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks	0.1	0.5
Subtotal Facility VOC CAP		227.8	994.6

Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available Significant permit revision in accordance with 20.2.72 NMAC. The facility wide fugitive VOC emission limit shown above and in Table 106.A of this permit.

MISCELLANEOUS SOURCES

Table 106.G EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)

Loading Rack	Loading Rack Description	Material Loaded	Hourly Throughput	Annual Throughput	VOC Emissions	
			bbl/hr	bbl/yr	lb/hr	ton/yr
TL-4 ^a	Fuels Truck Loading Rack	Gasoline	1214	1,600,696	4.25	2.80
		Diesel	107100	3,650,000	1.72	1.72
		Jet Fuel	35700	1,021,718	0.75	0.34
		TOTAL VOC			6.73	4.86
TL-7	CBO/LCO Truck	Carbon Black Oil	30000	500,808	6.30	1.57

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	Loading Rack	Light Cycle Oil	38100	20,119	3.55	0.06
		TOTAL VOC			6.30	1.63
RLO-8	Railcar Loading & Off-Loading Rack	Carbon Black Oil	30000	365,000	6.30	1.15
		Diesel	20000	1,144,000	0.32	0.54
		Jet Fuel	20000	1,144,000	0.42	0.38
		Asphalt	30000	2,628,000	0.01	0.03
		TOTAL VOC			6.30	2.09
FUG-ODOR	Odor Controlling Atomizer		1250 ml/hr	10950 liters	0.46	2.0

Note:1. Calculation method and factors per AP-42, Section 5.2, dated June 2008.

- a Controlled emission rate. The previous controlled rate was set by the terms of the consent agreement between Navajo Refining Co. and the Department executed January 28, 1994. The agreement required that the incinerator have a minimum 90% destruction efficiency for gasoline loading and a minimum 80% destruction efficiency for diesel fuel loading or Jet A fuel loading. This was achieved by a vapor combustor. This device has since been replaced with a carbon adsorption system compliant with MACT Subpart R, as subject per MACT Subpart CC. Emission limits changed in 195-M-17 to correspond to Title V permit values.

COOLING TOWERS						
Table 106.H EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS and PM						
Source ID	VOC lb/hr	VOC tons/yr	PM (lb/hr)	PM (tons/yr)	CO (lb/hr)	CO (tons/yr)
Y-0001	1.8	7.9	0.3	1.2		
Y-0002	1.8	7.9	0.3	1.2		
Y-0008 ^a	6.5	28.3	0.7	2.9	0.58	2.54
Y-0011	1.3	5.5	0.5	2.3		
Y-0012	0.4	1.8	0.2	0.8		
CT TT-0006	1.1	4.7	0.2	0.7		
Subtotal (for informational purposes only)	12.8	56.1	2.1	9.1		

^a Y-0008 cooling tower provides 100% control of any NH₃ emissions from V-H2 and V-H2-2. Unit 64, Hydrogen Plant has de-aerator line that has dissolved CO that is connected to the cooling tower.

API OIL/WATER SEPARATORS				
Table 106.I EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)				
Equipment ID	Emission Point ID	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
MAIN API	D-0829/0830	Above Ground API Oil-Water Separators	<0.1	<0.1

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		and enclosed drain system.			
T-0896	DAF-0896	DAF Unit T-0896	<0.1	<0.1	
T-0801	T-0801	Enhanced Biodegradation Tank T-0801	<0.1	<0.1	
T-0836	T-0836	Enhanced Biodegradation Tank T-0836	0.1	0.5	
T-0829	T-0829	Equalization Tank T-0829	5.1	8.9	
T-0806	DAF-0806	DAF Unit T-0806	<0.1	<0.1	
		Subtotal (for informational purposes only)	5.3	9.4	

A106 Facility: Allowable Emissions		☒ Continuous	☐ Yes	☒ Yes
C. Compliance with Allowable Emission Limits		☒ Intermittent	☒ No	☐ No
Requirement: The allowable mmBtu/hr, lb/mmBtu, lb/hr, and tpy emission limits for equipment listed in Table 106.A construction of which predates the effective date of 20.2.72 NMAC (August 31, 1972), and have not been modified since August 31, 1972, shall be the "potential emission rate" of that unit as defined in 20.2.72.107 NMAC and the potential to emit of that unit defined under 20.2.74 NMAC. The mmBtu/hr, lb/hr and lb/mmBtu limits are based on an hourly rolling 3-hour average. (NSR 0195M35, Condition A106.C and revised)	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.			
Monitoring: For units with lb/mmBtu emission limits in Table 106.A, the Permittee shall monitor the lb/mmBtu to demonstrate compliance with the mmBtu/hr, lb/hr, and tpy emission limits.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous	☐ Yes	☒ Yes
Recordkeeping: To demonstrate compliance, records shall be kept showing the correlation between lb/mmBtu and the	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Intermittent	☒ No	☐ No

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mmBtu/hr and lb/hr, and the monthly rolling 12-month tpy totals. The records shall also document any non-compliance with emission limits. For each unit, a summary of the method used to determine compliance shall be recorded. The permittee shall maintain records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A106 Facility: Allowable Emissions D. BACT SO₂ Limit – Fuel sulfur limit Refinery-Wide for all units burning refinery fuel gas (excluding units H-8801, H-8802 and H-9851 which burn only natural gas) shall not exceed 60 ppmv H₂S on a daily rolling 365-day average. The ton/yr emission rates for SO₂ in Table 106.A of this permit are based on this daily rolling 365-day average 60 ppmv H₂S limit. Compliance with this limit shall be demonstrated per the methods described in Condition A110.A.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A106 Facility: Allowable Emissions E. BACT NO_x Limit - In addition to the emission limits shown in Table 106.A, Boiler Unit B-0009 has a BACT NO_x limit of 0.02 lb/MM Btu, and CO₂ limit of 112.1 lb/MM Btu.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

A106 Facility: Allowable Emissions F. BACT SO₂ Limit – The Sulfur Recovery Unit No. 3 Tail Gas Incinerator (SRU3-TGI) is limited to 192 ppmvd SO ₂ at zero percent oxygen on a hourly rolling 12-hour average basis. In addition, SRU3-TGI is limited to 192 ppmvd SO ₂ at zero percent oxygen on a daily rolling 365-day average basis.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A106 Facility: Allowable Emissions G. BACT VOC Limit – The naphtha storage tank T-1225 and sour water storage tank T-0737 shall be equipped with an external floating roof using double seals to reduce VOC emissions to the atmosphere. The maximum true vapor pressure of any volatile organic liquid stored in either tank shall not exceed 11.0 psia. Demonstration of compliance is through the NSPS Kb and MACT emission limits.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A106 Facility: Allowable Emissions H. VOC – All fugitive piping components in VOC service associated with the process units proposed in Permit 195-M25 (Units FUG-25-ROSE-2, FUG-31-SRU3/TGI3/TGI3, and FUG-34-Hydorcracker) shall be monitored under the MACT subpart CC leak detection and repair program, or an approved equivalent program, to reduce VOC emissions.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A106 Facility: Allowable Emissions I. VOC – Consistent with MACT Subpart CC, the gasoline truck loading rack (TLO-4) shall be limited to 10 mg of VOC emissions per liter of gasoline loaded.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A106 Facility: Allowable Emissions J. PM10 – Cooling towers, Units Y-0011 and Y-0012, shall be equipped with high-efficiency drift eliminators to reduce PM10 emissions. Demonstration of compliance is through annual inspection in accordance with in Condition A212.B.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions A. The maximum allowable SSM and Malfunction emissions limits for this facility are listed in Table 107.A and were relied upon by the Department to determine compliance with applicable regulations.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

Table 107.A: Allowable SSM and Malfunction Units, Activities, and Emission Limits¹

Unit	Description of Emissions	NO _x		CO		VOC		TSP/PM ₁₀ /PM _{2.5}		SO ₂		H ₂ S	
		pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
SSM H-9851	Emissions during SCR downtime ¹	10.1	1.2	20.2	2.4	2.0	0.2	2.8	0.3	0.5	0.1	--	--
SSM T-0737	Emissions from roof landing	--	--	--	--	33.0	0.5	--	--	--	--	--	--
SSM Misc 1	Emissions from catalyst handling	--	--	--	--	--	--	1.5	<0.1	--	--	--	--

SSM SRU3-TGI	Emissions from SRU3 startup and shutdown	6.5	<0.1	15.0	0.1	0.1	<0.1	--	--	159.0	0.4	6.5	<0.1
SSM T-0078	Emissions from roof landing and tank refilling	--	--	--	--	177.0	2.7	--	--	--	--		
SSM T-0079	Emissions from roof landing and tank refilling	--	--	--	--	306.0	4.6	--	--	--	--		
SSM T-1225	Emissions from roof landing					187.0	2.8						
SSM FL-HEP-PORT	Temporary, portable flare for natural gas pipeline maintenance	173.4	0.1	943.5	0.5	160.7	0.1	--	--	1.7	<0.1	0.02	<0.1
SSM SRU2-TGI (H-0473)	Emissions from SRU2 startup and shutdown	6.5	0.1	27.7	0.2	0.2	0.1	--	--	159.0	0.4	6.6	0.1
SSM Flare Cap	Emissions from venting SSM activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404.	162.9	18.3	1243.0	77.0	211.6	13.2	--	--	1133.4	14.9	0.4	0.1
Flares Malf Cap	Upset and Malfunction Emissions	--	10.0	--	10.0	--	10.0	--	--	--	10.0	--	--
SSM Misc 2	Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as heat exchanger repair.	17.0	1.9	127.1	7.8	21.2	1.4	--	--	129.3	1.6	0.7	0.1--
SSM Tanks Misc	Storage Tanks	--	--	--	--	112.0	10.6	--	--	--	--	0.1	0.1
Subtotal SSM/M1			31.6		98.0		46.2		0.4		27.4		0.4

During startup, shutdown, schedule maintenance or malfunction of the SCR control system, BACT for H-9851 shall be ultra-low NOx burners emitting no more than 03 lb per MMBtu (LHV) on a hourly rolling 3-hour average basis at 3% excess oxygen. Pound per hour and tons per year limits are based on the lb/MMBtu limits and were used to demonstrate compliance with the lb/MMBtu limits and the Ambient Air Quality Standards (AAQS).

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions B. The authorization of emission limits for startup, shutdown, maintenance, and malfunction does not supersede the requirements to minimize emissions according to Conditions B101.C and B107.A.	Navajo complies with the conditions of B101.C and B107.A. Except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
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A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions		☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
C. SSM Flaring and combustion Emissions Requirement: The permittee shall comply with the flaring and combustion SSM NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emission limits at Table 107.A for the following SSM events: 1) SSM H-9851, Emissions during SCR downtime 2) SSM SRU-TGI, Emissions from SRU3 startup and shutdown 3) SSM FL-HEP-PORT, Temporary, portable flare for natural gas pipeline maintenance 4) SSM SRU2-TGI (H-0473), Emissions from SRU2 startup and shutdown 5) SSM Flare Cap, Emissions from venting SSM activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404 6) SSM Misc 2, Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as	1), 2), 3), 4), 5), and 6) Navajo obtains fuel gas analysis monthly from New Mexico Gas Company. Navajo continues to comply with these requirements except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.			

heat exchanger repair. (NSR 0195M35, Condition A107.C and revised)				
Monitoring: The permittee shall monitor all flaring and combustion due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting all the SSM flaring and combustion information specified in A107C. Recordkeeping.	Navajo Environmental Department keeps an up-to-date events summary with emission units and pollutant.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: The permittee shall record the date, start and end times, and duration of every SSM flaring or combustion event. The NO _x , CO, VOC, SO ₂ , TSP, PM ₁₀ , and H ₂ S emissions shall be calculated for each event based on the volume of gas sent to the flare and the total sulfur content of the flared gas. Compliance with the hourly emission rates shall be demonstrated by calculating the hourly emission rates for each event and comparing the results to the hourly emission rate at Table 107.A. The annual emission rate shall be calculated as follows: 1) To demonstrate compliance during the first 12 months of monitoring, the permittee shall calculate and sum the monthly cumulative total of NO _x , CO, VOC, SO ₂ , TSP, PM ₁₀ , PM _{2.5} , and H ₂ S emissions; and 2) After the first 12 months of monitoring, the permittee shall	Navajo keeps records of SSM events. Maintenance scheduling is based on engineering judgment and operating experience.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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calculate and sum the total of NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emissions on a monthly rolling 12 month basis. 3) The permittee shall maintain all records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Reports required by Section B110 are submitted as necessary, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions D. SSM VOC Emissions (Facility-Wide, Non-Combustion Sources) Requirement: The permittee shall comply with the SSM VOC emission limit at Table 107.A.	Navajo complies with the requirements listed in table 107.A.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall monitor all VOC emission activities due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting VOC emission calculation information for the following SSM VOC emission activities: 1) SSM T-0737, Emissions from roof landing 2) SSM T-0078, Emissions from roof landing and tank refilling 3) SSM T-0079, Emissions from	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

roof landing and tank refilling 4) SSM T-1225, Emissions from roof landing 5) SSM Tanks Miscellaneous				
Recordkeeping: The annual SSM VOC emission rate shall be calculated as follows: 1) To demonstrate compliance during the first 12 months of monitoring the permittee shall calculate and sum the monthly cumulative total of VOC emissions; and 2) After the first 12 months of monitoring the permittee shall calculate and sum the total of VOC emissions on a monthly rolling 12 month basis, including the methodology and/or assumptions used in the calculation(s). The permittee shall keep records to demonstrate compliance in accordance with Condition B109C, except the requirement in B109.C(2) to record the start and end times of SSM events shall not apply to known quantities of VOC emissions. 3) The permittee shall maintain all records in accordance with Section B109.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions E. SSM Particulate Emissions (Unit SSM Misc 1) Requirement: The permittee shall minimize particulate emissions due to SSM events.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall monitor all particulate emissions due to routine and predictable startups, shutdowns, and scheduled maintenance events. For the event type of FCCU Catalyst Loading, the maximum material usage shall not exceed 1 hr-duration, 1 loading event/yr; and 237,048 lb/event/yr.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: For each event, the permittee shall maintain records of the duration in hours, events per year, and material usage for the particulate matter emitting SSM event - FCCU Catalyst Loading. The annual material usage shall be based on monthly rolling 12-month total. The permittee shall maintain all records in accordance with Section B109.	Catalyst loading data collected on a daily basis and maintained by the Navajo Process Engineering Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions F. SSM and Malfunction Flaring Emissions (SSM Flare Cap and Flares Malf Cap) Requirement: The permittee shall not exceed the pound per hour (pph) and ton per year (tpy) emission limits in Table A107.A and shall demonstrate compliance with these limits by calculating and summarizing these emission rates as required in recordkeeping.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: A gas flowmeter and flow totalizer, equipped with a chart recorder or electronic data logger, shall be installed in the flare line to measure and record the total standard cubic feet (scf) of all gas (process gas, purge gas, pilot gas, and supplemental fuel gas) sent to the flare during each hour and each month. The permittee shall measure the H₂S content, the total sulfur content, the VOC content, and the heating value (Btu/scf) of the gas sent to the flare for combustion. H₂S shall be measured at least once every 24-hours on each of the inlet gas types/streams using a stain tube of the appropriate size range or an inline H₂S monitor. The total sulfur content, VOC content, and heating value (Btu/scf) of the	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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natural gas sent to the flare shall be measured at least once annually with an extended gas analysis. The flow meter and flow totalizer shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings. If used, the inline monitor shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings.				
Recordkeeping: The following records shall be kept: • stain tube and/or inline H₂S measurements • annual extended gas analysis • both the hourly and monthly volume (scf) of gas sent to the flare Each month, the permittee shall record and summarize in a table format the following. • H₂S and the total sulfur content • percent VOC content • gas heating value (Btu/scf) • the maximum hourly gas flow rate (scf/hr) that occurred during the month • each hourly gas flow rate (scf/hr) for any hour(s) that exceeded any pph emission limit during the month • the total month's scf of gas sent to the flare	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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- the monthly rolling 12-month total of gas sent to each flare (scf/yr) Each month, the permittee shall record all routine and predictable startups, shutdowns, and scheduled maintenance events and shall also meet the recordkeeping requirements in General Condition B109 of this permit, except the requirement to record the start and end times of SSM events shall not apply. Records of flowmeter, totalizer, and inline monitor certifications, calibrations, documentation of the manufacturer's recommended calibration / maintenance schedule, breakdowns, reasons for the breakdown, and corrective actions taken shall be maintained. Each month, to demonstrate compliance with both the SSM and malfunction emission limits, the permittee shall calculate and summarize the maximum pph emission rate, any pph emission rate exceeding the permitted limits, and the monthly rolling 12-month total ton per year emission rates of NO_x, CO, VOC, SO₂, and H₂S for both SSM and malfunction events, using the following information: - the H₂S content, total sulfur content, VOC content, and the gas heating value (MMBtu/scf) from the most recent H₂S measurements and gas analyses - the emission factors used to				
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calculate NOx and CO - the maximum hourly gas flow rate (scf/hr) - each hourly gas flow rate (scf/hr) for any hour(s) that exceeded any pph emission limit during the month, including the dates and times of these occurrences - the monthly rolling 12-month total of gas sent to the flare (scf/yr) For each event, the permittee shall record whether the emissions are due to SSM and/or malfunction. If the emissions are due to malfunction, the permittee shall indicate whether the emissions resulting from the event are included in the amount allowed by this permit's malfunction limit or whether the event is reported under 20.2.7 NMAC.				
Reporting: The permittee shall report according to Condition B110.	Navajo complies with these requirements, Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A108 Facility: Hours of Operation A. This facility is authorized for continuous operation. Monitoring, recordkeeping, and reporting are not required to demonstrate compliance with continuous hours of operation.	No requirement.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A109 Facility: Reporting Schedules A. A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The six month reporting periods start on	Navajo submitted the requested monitoring reports as follows: 10/13/2016 04/13/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

September 1st and March 1st of each year.				
A109 Facility: Reporting Schedules B. The Annual Compliance Certification Report is due within 30 days of the end of every 12-month reporting period. The 12-month reporting period starts on September 1st of each year.	Navajo submitted the requested compliance certification report as follows: 09/29/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A109 Facility: Reporting Schedules C. In addition to the reports required by the applicable NSPS, NESHAP and MACT Subparts (including any voluntary programs referencing NSPS, NESHAP, or MACT Subparts) and by the applicable parts of 20.2 NMAC, the reporting required by the Consent Decree shall be submitted to the Department. The reports shall be submitted to the Air Quality Bureau within forty five (45) days of the end of each calendar quarter. If any reports indicate potential non-compliance with the terms of this permit, the Bureau may impose a more frequent reporting time-frame. The Department shall handle any confidential information in accordance with the provisions of 20.2.1.115 NMAC.	The Department has not requested more frequent reporting time-frames.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A109 Facility: Reporting Schedules D. Reporting required by the Consent Decree (not an exhaustive listing) (1) The permittee shall notify the Department's Enforcement Section, Air	Navajo submitted the Annual NOx Control Technology report as follows: 12/30/2016	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Quality Bureau in writing of the annual progress of installation of NOx Control Technology required by Paragraph 16 of the Consent Decree. The report shall be submitted to the EPA and the NMED on or before December 31st of each calendar year commencing with the year 2002. (CD ¶16.E) (2) No later than forty-five (45) days following the end of an AG Flaring or TG Incident, the permittee shall submit to EPA and the NMED a report that sets forth the items detailed in the Consent Decree. (CD ¶20, CD¶21)				
A110 Facility: Fuel and Fuel Sulfur Requirements (as Required) A. Fuel, Fuel Sulfur, and NSPS J, Ja Sulfur Requirements (See Tables 103.E, H, I, & K, Summary of Applicable Requirements) Requirement: (NSR 0195M35, Condition A110.A and revised) (1) To comply with NSPS Subpart J, NSPS Subpart Ja, and the PSD BACT requirements in Section 106, the permittee	Refinery fuel gas is continuously monitored for H2S content on a 3-hour rolling average. Excedances are reported on Navajo's Subpart J and Subpart Ja reports.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

shall install, calibrate and maintain a continuous monitoring system (CMS) to continuously measure and record either the hydrogen sulfide (H₂S) in the refinery fuel gas streams being burned in the Heaters and Boilers or the concentration of sulfur dioxide emissions to the atmosphere. (2) All stationary combustion equipment shall be fired with NSPS quality fuel gas with a maximum H₂S content of 0.1 grains/dscf (approx. 162 ppmv), based on a hourly rolling 3-hour average. (3) All stationary combustion equipment shall not combust gas with an annual average sulfur content exceeding 60 ppmv (approx. 0.037 grains) as a daily rolling 365-day average. (4) All stationary combustion equipment shall be affected facilities, as defined in NSPS 40 CFR Part 60, Subparts A and J or Ja, if refinery-produced fuel gas is combusted in the heaters and boilers, and shall comply with all applicable requirements of NSPS Subparts A and J or Ja. (See Table 103.E, Summary of Applicable Requirements)				
Monitoring: (1) The permittee shall install, certify, calibrate, maintain and operate a fuel gas continuous monitoring system (CMS) at	1) CMS has been installed and is certified, calibrated and maintained.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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the fuel gas mix drum outlet in accordance with the requirements of 40 CFR §§ 60.11, 60.13, and Part 60 Appendix A, and the applicable performance specification of 40 CFR Part 60 Appendices B and F. (2) The following CMS shall be certified initially and recertified annually: • D-0019 Low Pressure Fuel Gas H₂S CMS • D-0770 High Pressure Fuel Gas H₂S CMS (3) As required by the EPA-approvable alternative monitoring procedure (AMP), CCR off-gas streams that enter the refinery fuel gas system downstream of the H₂S CMS shall be monitored quarterly for H₂S using gas detector tubes or an equivalent method as follows: (a) CCR stabilizer off gas stream, (b) H₂ recycle gas stream, and c) CCR feed stream.	2) CMS annual RATAs were completed as follows: D-0019 Low Pressure Fuel Gas H₂S 6/21/2017 D-0770 High Pressure Fuel Gas H₂S 6/20/2017 3) The CCR stabilizer off gas, the H₂ recycle gas and the CCR feed streams are analyzed a minimum of quarterly.			
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subparts A, J, and Ja. (1) Records of the quantity of the refinery fuel gas and the monthly average heating value of the refinery fuel gas. This is used to demonstrate compliance with lb/mmBTU and lb/hr limits shown in Table 106.A. (permit limit) (2) Records of repairs, maintenance, and calibrations performed for the instruments that measure flow or	1) Fuel records are maintained in Pi. 2) Repair, maintenance, and calibration records are maintained by Navajo Instrument and Electrical Department. 3) CCR off-gas stream analysis records are maintained in the Navajo Environmental Department Files (REF.ART.3.J.05.A).	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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concentration for an applicable permit limit shall be kept. Examples include, but are not limited to, CMS, acid gas flow meters, and fuel gas flow meters. (40 CFR 60, Appendix F) (3) Records shall be kept of Alternative Monitoring Plan (AMP) H ₂ S analyses of the CCR off-gas streams that enter the refinery fuel gas system downstream of the fuel gas H ₂ S CMS. (NSPS J or Ja)				
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subparts A, J, and Ja, and Section B110.	Reports required by Subpart A are submitted semiannually. Reports required by Subparts J and Ja, and Section B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A111 Facility: 20.2.36 NMAC A. Facility: 20.2.36 NMAC Requirement: 20.2.36 NMAC (Petroleum Refinery - Sulfur, 11/30/95) applies to the refinery as a whole. Quarterly refinery-wide sulfur balance reports shall be filed in accordance with 20.2.36.113 NMAC. All flares and stacks shall meet the applicable height requirements of 20.2.36.114 NMAC as demonstrated through air dispersion modeling done at the time of unit installation. (NSR 0195M35, Condition A111.A)	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Quarterly monitoring of refinery-wide sulfur balance.	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall keep record of a copy of the Facility-Wide Sulfur Balance Report and the actual	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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height of flares and stacks.				
Reporting: The permittee shall report in accordance with 20.2.36.113A NMAC.	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A112 Facility: 20.2.37 NMAC A. 20.2.37 NMAC Requirement: (NSR 0195M35, Condition A112.A) (1) Section 200.A (Mercaptans) and section 200.B (Hydrogen Sulfide) apply to mercaptan and H ₂ S emissions from the refinery. Section 200.C applies to FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404. and requires an alarm in good working order to signal non-combustion of the gas. (2) Section 201.A (CO), applies to the refinery's FCC regenerator stack. The owner or operator of an existing petroleum processing facility shall not permit, cause, suffer or allow carbon monoxide emissions to the atmosphere from a catalyst cracking recirculation or regeneration unit in excess of 20,000 ppm by volume in the undiluted effluent gas stream or streams. (3) Section 202.C(1) (PM), The owner or operator of a new petroleum processing facility shall not permit, cause, suffer or allow particulate matter emissions to the atmosphere from the catalytic cracking regenerator vessel in excess of 1.0 Kg/1000 Kg (1.0 lb/1000 lb) of coke	1) All flares have alarms indicating loss of flame that are in good working order. 2) The FCC catalyst regenerator exhaust is continuously monitored for CO. 3) The catalytic cracking regenerator is tested annually for PM. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9. 4) There are no process vents to the atmosphere, so the refinery is not expected to emit ammonia. Any trace ammonia emissions are expected to comply with the 25-ppm limit. 5) Navajo continues to comply with the applicable requirements of NSPS Subpart QQQ at refinery oil/water separators. The oil/water separator is inspected at least semi-annually, and the carbon vapor control is tested at least monthly. 6) Blowdowns are accomplished by venting to flares that are designed to be operated smokelessly. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

burnoff or visible emissions of thirty percent (30%) opacity or greater except for one six-minute average opacity reading in any one-hour period. (4) Section 203 (Ammonia, undiluted emissions ≤ 25 ppmv) applies to all emission points of the refinery. The owner or operator of a petroleum processing facility shall not permit, cause, suffer or allow ammonia emissions to the atmosphere in excess of 25 ppm by volume in the undiluted effluent gas stream or streams. (5) Section 204 (Hydrocarbon Separation Facility) applies to all oil/water separators at the refinery. Compliance with this condition is met by complying with the applicable NSPS Subpart QQQ requirements. (6) Section 205 (Facilities - Storage - Handling - Pumping - Blowdown System) applies to certain of the following: storage tanks for organic compounds, loading and unloading of organic compounds, seals on pumps and compressors, and disposal (flaring) of hydrocarbon gases. The permittee shall not permit, cause, suffer or allow the operation of a blowdown system without disposing of the gases in a manner which will minimize hydrocarbon emission to the atmosphere. If combustion is the means of disposal, it shall be by: smokeless flare; or any other method that is equally effective to achieve complete				
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combustion. (20.2.37.205.E NMAC) Monitoring: (1) For Units FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404: The permittee shall install and maintain a flare pilot flame monitoring system. (20.2.37.200.A.2 NMAC) (2) A CO CMS has been installed to monitoring the emissions from the FCC. (3) The annual EPA Method 9 Opacity Test and annual Stack test on Unit FCC (lb/hr PM emissions) and the calculated Coke burn rate will be used for the annual determination of pounds of PM per 1000 pounds of Coke burned. (4) None (5) No additional monitoring since compliance is met by complying with the applicable NSPS Subpart QQQ requirements. See other conditions of this permit for applicable NSPS or MACT requirements. (6) Compliance is demonstrated through NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns. Recordkeeping: (1) Pilot flame monitoring records (2) CO CMS measurements	1) All flares have alarms indicating loss of flame that are in good working order. 2) The FCC catalyst regenerator exhaust is continuously monitored for CO. 3) The catalytic cracking regenerator is tested annually for PM. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9. 4) Not monitoring requirement. 5) Navajo continues to comply with all requirements except for specific deviations as noted elsewhere in this document. 6) Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016. 1) Records are maintained in Pi. 2) Records are maintained in Pi. 3) Stack test reports are maintained by the Navajo	☒ Continuous ☒ Intermittent ☒ Continuous ☒ Intermittent	☒ Yes ☐ No ☒ Yes ☐ No	☐ Yes ☒ No ☐ Yes ☒ No
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(3) Copy of annual coke burn rate determination, stack test report, and opacity test report (4) None (5) Applicable NSPS Subpart QQQ requirements (6) Applicable NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns requirements	Environmental Department. 4) No recordkeeping requirement. 5) NSPS QQQ reports are maintained by the Navajo Environmental Department. 6) NSPS K, NSPS Ka, NSPS Kb, NSPS GGGa, NSPS J, NSPS Ja, and MACT CC reports are maintained by the Navajo Environmental Department. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016.			
Reporting: The permittee shall report in accordance with applicable NSPS or MACT requirements and Section B110.	NSPS J, Ja, GGGa, QQQ, and MACT CC reports are submitted semiannually. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A113 Facility: 20.2.38 NMAC A. 20.2.38 NMAC Requirement: 20.2.38 NMAC (Hydrocarbon Storage Facilities, 11/30/95) applies to the refinery as follows: 1. Section 109 (Tank Storage Associated with Petroleum Production or Processing Facility [Sour Hydrocarbon Liquids]) applies to the loading and storing of hydrocarbons containing H₂S. 2. Section 110 (Tank Battery or Storage Facility - Within Municipality [Sour	1) The Artesia Refinery includes storage vessels that store hydrocarbons containing hydrogen sulfide. The vessels comply with the requirements of 20.2.38.109 by using submerged fill. 2) and 3) The vessels comply with the requirements of 20.2.38.110 and 113 by using internal or external floating roofs with the required seals.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Hydrocarbon Liquids)) applies to certain tanks storing sour hydrocarbon liquids whose vapors contain ≥ 24 ppm H ₂ S. 3. Section 113 (New Tank Battery and the Pecos-Permian Interstate Air Quality Control Region [Sour Hydrocarbon Liquids]) applies to certain tanks storing sour hydrocarbon liquids whose vapors contain ≥ 24 ppm H ₂ S. (NSR 0195M35, Condition A113.A)				
Monitoring: 1. None 2. and 3. Demonstrated through NSPS K, Ka, Kb, and MACT CC floating roof seal inspection.	2) and 3) Navajo Inspection Department performs seal inspections and maintains those records.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: 1. Records of Tank design showing inlet piping connections. 2. and 3. No additional requirements other than applicable requirements of NSPS and MACT.	1) Records of tank designs are maintained in the Navajo Engineering Library. Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A118 Facility: MACT Subpart UUU A. 40 CFR 63, Subpart UUU FCC, FUG-70-CCR, SRUs 1, 2, and 3 Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart UUU, National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking	For the FCC, Navajo monitors and records the daily average coke burn rate and of the continuously monitored CO emissions. For the CCR, Navajo monitors and records the weekly average ChlorSorb catalyst inlet and outlet chloride content, the ChlorSorb inlet and outlet temperatures, and the CCR firebox temperature. For the SRUs, Navajo monitors and records the SO ₂ concentration from the tail gas incinerators.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Units, Catalytic Reforming Units, and Sulfur Recovery Units, for all affected sources shown in Tables 103H&I attached. (63.1560 and 63.1570).				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart UUU.	For the FCC, Navajo monitors and records the daily average coke burn rate and of the continuously monitored CO emissions. For the CCR, Navajo monitors and records the weekly average ChlorSorb catalyst inlet and outlet chloride content, the ChlorSorb inlet and outlet temperatures, and the CCR firebox temperature. For the SRUs, Navajo monitors and records the SO2 concentration from the tail gas incinerators.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart UUU.	Process records are maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart UUU.	Reports required by Subpart UUU were submitted semiannually as follows: 1/30/2017 7/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A119 40 CFR 61 Subpart FF. National Emission Standard for Benzene Waste Operations A. 40 CFR 61 Subpart FF, National Emission Standard for Benzene Waste Operations (Units subject in Table 103.C & G) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 61, Subpart FF, National Emission Standard for Benzene Waste Operations for the affected sources in Tables 103.C, G.	The refinery complies with the applicable requirements of NESHAP Subpart FF. Because the refinery's total annual benzene (TAB) quantity is less than 10 Mg/yr, none of the standards in this regulation apply.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply	The refinery complies with the applicable	☐ Continuous	☒ Yes	☐ Yes

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with the applicable monitoring and testing requirements of 40 CFR 61, Subpart FF.	requirements of NESHAP Subpart FF. Because the refinery's total annual benzene (TAB) quantity is less than 10 Mg/yr, none of the standards in this regulation apply.	☒ Intermittent	☐ No	☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 61.356.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 61.357.	Navajo submitted the annual TAB report. 04/06/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines A. Maintenance and Repair Monitoring (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901; Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901) Requirement: These units are subject to Title V since they are subject to NSPS and/or MACT requirements. No emission limits were established since their emissions are small. The permittee shall ensure these units are properly maintained and repaired.	Navajo complies with MACT Subpart ZZZZ. Unit M-8010 was installed 11/04/2013. The engine was operated a total 0.4 hours during the reporting period.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events: (1) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period. (2) Unscheduled repairs that require a unit	Navajo complies with MACT Subpart ZZZZ. 1) and 2) Unit M-8010 operating hours are monitored. the unit was not taken out of service greater then two hours in any twenty-four hour period.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

to be taken out of service for more than two hours in any twenty-four hour period.				
Recordkeeping: The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.	Navajo complies with MACT Subpart ZZZZ. Unit M-8010 is equipped with a non-resetable run-time meter. Navajo keeps quarterly rolling annual total hours on file.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines B. 40 CFR 63, Subpart ZZZZ (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901) (Units subject in Table 103.J) Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 63, Subpart ZZZZ and the permittee shall comply with all applicable requirements of Subpart A and Subpart ZZZZ.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart A and Subpart ZZZZ.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart ZZZZ, including but not limited to 63.6655 and 63.10.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart A and ZZZZ, including but not limited to 63.6645, 63.6650, 63.9, and 63.10.	Reports required by Subpart ZZZZ were submitted semiannually as follows: 1/31/2017 7/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines C. 40 CFR 60, Subpart IIII (Diesel Engines subject in Table 103.J Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 60, Subparts A and IIII and shall comply with the notification requirements in Subpart A and the specific requirements of Subpart IIII.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4211.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with all applicable reporting requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks A. NSPS Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which	Navajo continues to comply with the applicable requirements of NSPS Subpart K, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations previously submitted reports. External	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 (Tanks subject in Table 103.C) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & K for the affected sources in Table 103.C.	and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.			
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart K.	Navajo continues to comply with the applicable requirements of NSPS Subpart K, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart K.	External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart K.	Navajo submits notifications of seal inspections to the Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks B. NSPS Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 (Tanks subject in Table 103.C)	Navajo continues to comply with the applicable requirements of NSPS Subpart Ka, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Ka for the affected sources in Table <u>103.C</u> .	required. The true vapor pressure is based on the material stored and maximum historical data.			
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ka.	Navajo continues to comply with the applicable requirements of NSPS Subpart Ka, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ka.	External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ka.	Navajo submits notifications of seal inspections to the Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks C. NSPS Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984" (Tanks subject in Table <u>103.C</u>) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Kb for the affected	Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the processes shown in Table 103 B, C, D, G, except for deviations noted in semi-annual reports. Fugitive components subject to these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the affected storage tanks, except for inspections listed as deviations in this report. External and	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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sources in Table 103.C.	internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The loading rack subject to portions of MACT Subpart R incorporated by reference into MACT CC is equipped with a carbon adsorption system monitored by a CMS.			
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Kb.	Fugitive components subject to these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. The loading rack subject to portions of MACT Subpart R incorporated by reference into MACT CC is equipped with a carbon adsorption system monitored by a CMS.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Kb.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Kb.	Navajo submitted Subpart CC reports semiannually as follows: 2/18/2017 8/29/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks				
D. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Tanks subject in Table 103.C)	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Table 103.C attached.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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(63.640).				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/18/2017 8/29/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks E. Tank Throughput, Temperature, and VOC and H ₂ S Limits (Units shown in Tables 106.B & C) Requirement: Compliance with the allowable throughput limits and emission limits in Table 106.D & E shall be demonstrated by not exceeding the monthly rolling 12-month total throughput to the unit(s) of gallons per year (barrels/year) shown in Table 106.D and not exceeding the allowable vapor pressure listed in Tables 106.B & C.	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall monitor the monthly total throughput, maximum temperature once per month and the vapor pressure of each tank.	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall	Navajo complies through Pi data.	☒ Continuous	☒ Yes	☐ Yes

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record the monthly total throughput of liquids and the vapor pressure of each tank. Each month, during the first 12 months of monitoring, the permittee shall record the cumulative total liquid throughput and vapor pressure and after the first 12 months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total liquid throughput and the vapor pressure of each tank. The permittee has calculated the VOCs and H₂S annually based on the 12-month total. Tank breathing and working emissions were calculated using the USEPA Tanks program Version 4.0.9.d or more current. Emission rates computed using the same parameters, but with a different Department approved algorithm that exceed these values will not be deemed non-compliance with this permit. Records shall also be maintained in accordance with Section B109.		☒ Intermittent	☐ No	☒ No
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A204 Heaters/Boilers A. Operational Inspection (All heaters/boilers in Tables 103.E & 104.A) Requirement: Compliance with the allowable emission limits in Table 106.A shall be demonstrated by performing periodic inspections to ensure proper operations.	Inspections were performed to ensure proper operation.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct annual operational inspections to determine that the heater(s)/boiler(s) are operating properly. The operational inspections shall include operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the heater/boiler manufacturer, and indications based on operational experience with the/these unit(s).	Inspections were performed to ensure proper operation.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the heater(s)/boiler(s) into compliance. The permittee shall maintain records in accordance with Section B109.	Inspection results are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall report in accordance with Section B110. Within ninety (90) days of permit issuance, the permittee shall submit for Department approval a procedure which the permittee will use to carry out the operational inspections. The permittee may at any time submit revisions for Department approval.	Navajo submitted MACT Subpart DDDDD reports semiannually as follows: 1/30/2017 7/28/2017	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers B. Periodic Emissions Tests (Units Heaters H-0019, H-0020, H-0362, H-0363, H-0364, H-2421, H-3402, and H-3403) Requirement: Compliance with allowable emission limits in Table 106.A shall be demonstrated by performing periodic emissions tests. (NSR 0195M35, Condition A204.A, revived)	Testing was performed as follows: H-0019 01/05/2017 H-0020 01/05/2017 H-0362 01/10/2017 H-0363 01/10/2017 H-0364 01/10/2017 H-2421 07/25/2017 H-3402 01/11/2017 H-3403 01/11/2017 All heaters were within allowable emission limits.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct annual periodic portable analyzer emission tests or EPA Reference Method Tests for NO_x and CO. Test results that demonstrate compliance with the CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits. Section B108 General Monitoring Requirements apply to this condition. The permittee shall meet the testing requirements in Section B111.	Testing was performed as follows: H-0019 01/05/2017 H-0020 01/05/2017 H-0362 01/10/2017 H-0363 01/10/2017 H-0364 01/10/2017 H-2421 07/25/2017 H-3402 01/11/2017 H-3403 01/11/2017 All heaters were within allowable emission limits.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Recordkeeping: Records of periodic emission tests shall include the flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure NO_x, CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results. Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.	Periodic emission test results are maintained by Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for NO_x and CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.	All testing reports were submitted to the NMED at <stacktest.aqb@state.nm.us>.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers C. Summary of Compliance Methods for Heaters and Boilers for Table 106.A, 20.2.33 NMAC, 20.2.37 NMAC (Boilers and Heaters in Tables 103.E and 104.A) Requirement: (NSR 0195M35,	Navajo complies with these requirements, except for deviations previously reported or identified at the end of this report.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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Condition A204.B) (1) Demonstrate compliance with Table 106.A Allowable Emissions. (2) 20.2.33 NMAC (Gas Burning Equipment – Nitrogen Dioxide, 10/31/02) applies to existing and new gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year. It applies to process heaters identified in Tables 103.E and 104.A. These units shall be equipped with burners emitting less than 0.2 lb NO_x per MM Btu. Compliance with 20.2.33 NMAC is demonstrated by compliance with the NO_x lb per MM Btu limits in Table A106.A.				
Monitoring: (1) The permittee shall monitor the fuel usage of the all boilers and heaters. The fuel usage shall be monitored for specific heaters and boilers subject to 20.2.33 NMAC. (2) For specific heaters and boilers subject to 20.2.33 NMAC, the permittee shall collect and analyze samples of the refinery fuel gas at least once per week. The refinery fuel gas analysis shall include the composition of the refinery fuel gas, the gross heating value, and the net heating value. (3) See Condition A110.A for H₂S monitoring requirements. (4) All process heaters and boilers shall fire only refinery gas in accordance with	1) Fuel use measured by Pi. 2) Refinery fuel gas is analyzed at least once per week. 3) Refer to response for Section A100.A 4) No combustion sources fire only purchased gas. 5) The following combustion sources have CMS that are recertified annually as follows: B-0007 06/21/2017 B-0008 06/24/2017 B-0009 10/05/2016 & 07/24/2017 H-9851 06/20/2017 H-2501 01/09/2017 6) Test results referenced in Condition A104.B meet this requirement. 7) Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Application, Section 2, Table 2-J. (5) For those combustion sources required to have a continuous monitoring system (CMS) (listed in (a) below), the permittee shall install, certify, calibrate, maintain, and operate the CMS for each required pollutant in accordance with the applicable requirements of 40 CFR 60 or 63. The hourly average CMS data, the refinery fuel gas usage data, and the refinery fuel gas composition data shall be used to estimate the actual emission rates. (a) The following CMS shall be recertified annually: • Boiler B-0007 NO_x and O₂ CMS • Boiler B-0008 NO_x and O₂ CMS • Boiler B-0009 NO_x and O₂ and CO₂ CMS • H-9851 NO_x O₂ CMS • H-2501 NO_x O₂ CMS (6) For those combustion sources required to conduct periodic stack exhaust testing as stated in Condition A204.B, the test reports shall be used to demonstrate compliance with the NO_x, CO, and VOC limits in Table 106.A. (7) For those units and pollutants that are not required to have a CMS or a periodic stack test, (Units H-009, H-0011, H-0018, H-0028, H-0030, H-0040, H-0303, H-0312, H-0352, H-0353, H-0354, H-0355, H-0421, H-0464, H-0473, H-0600,	8) Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016.			
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H-0601, H-8801, H-8802, and H-3101) the permit application emission factor, the fuel usage, and the refinery fuel gas analysis shall be used to calculate the emission rates of NOx, CO, VOC, and PM. (8) Compliance with the particulate emission limitation set forth in 20.2.37.202.A NMAC shall be determined as specified in 20.2.37.202.D(3) NMAC. Combustion of only gaseous fuel has been approved by the Department as the compliance method under 20.2.37.202.D(3) NMAC.				
Recordkeeping: The permittee shall maintain the following records: (1) By March 31, the annual fuel usage for all boilers and heaters for the previous calendar year. (2) By March 31, the average fuel composition and heating value for all boilers and heaters for the previous calendar year. (3) For those units required to have a CMS (B-0007, B-0008, B-0009, H-9851 and H-2501), the CMS hourly average data. (4) For those units required to conduct periodic stack exhaust testing, the periodic test report. (5) For all boilers and heaters, a summary spreadsheet shall be maintained comparing the actual annual emissions with the allowable emission limits expressed in	1) Fuel usage records are maintained in Pi. 2) Fuel composition records are maintained in Pi. 3) CMS data is maintained on Pi. 4) Test reports are maintained by Navajo Environmental Department. 5) The summary spreadsheet is included in the Emission Inventory.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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tons per year and lb/MMBtu using the appropriate method of compliance demonstration. This spreadsheet shall be updated by March 31 of each year for the previous calendar year.				
Reporting: The permittee shall report in accordance with Sections B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers D. Consent Decree NO _x Emission Limits for Boilers B-0007, B-0008, and B-0009 (new as of 2013) Requirement: (NSR 0195M35, Condition A204.C) (1) In accordance with the Consent Decree lodged December 20, 2001, NO _x emissions from boilers B-0007 (no later than December 31, 2002), B-0008 (no later than December 31, 2003), and B-0009 (new as of 2013) shall not exceed the limit in Table 106.A during any hourly rolling 3-hour period. Demonstration of compliance with the NO _x limit for B-0007, B-0008, and B-0009 shall be established by averaging the CMS Data over any 3-hour period and comparing the average concentration to the parametric limit of ≤ 42.1 ppm NO _x , corrected to 6.1% O ₂ as determined by the CMS. (CD¶16.D) This also satisfies the requirement in 20.2.33.108.A NMAC that NO _x emissions	1) Data maintained in Pi. 2) No requirement.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

shall not exceed 0.2 lb/MMBTU. (2) Navajo is authorized to operate all three boilers (B-0007, B-0008, and B-0009) simultaneously as needed.				
Monitoring: For the Controlled Boilers (B-0007, B-0008) as listed in the Consent Decree and B-0009 (new as of 2013), continuous compliance with their respective NO _x permit emissions limits shall be demonstrated by monitoring as follows: (CD¶16.C) (1) For boilers (B-0007, B-0008, and B-0009) with a heat input capacity greater than 150 MMBTU/hr of HHV, the permittee shall install or continue to operate CMS to measure NO _x and O ₂ . Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specification test of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable; (CD¶16.C.i)	1) B-0007, B-0008, & B-0009 have CMS installed and data maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall keep records of the CMS recertification's monitored in Condition A204.B, Summary of Compliance.	CMS recertifications are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall report in accordance with Section B110.	All testing reports were submitted to the NMED at <stacktest.aqb@steat.nm.us>.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers E. NO _x Monitoring and Testing for Controlled Heaters Subject to the Consent Decree (Units H-0020, H-0352, H-0353, H-0354, H-0600, and H-0601) Requirement: For the Controlled Heaters as listed in the Consent Decree, continuous compliance with all NO _x emissions limits shall be demonstrated by monitoring as follows. (CD¶16.C) (NSR 0195M35, Condition A204.D)	CMS installed and data maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: (1) For heaters with a heat input capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV), Navajo shall (a) install or continue to operate CMS to measure NO _x and O ₂ by no later than the date of the installation of the applicable NO _x Control Technology on the heater or boiler; or (b) submit for EPA approval, by no later than 60 days after the date of installation of the applicable NO _x Control Technology on the heater or boiler, a proposal for monitoring based on operating parameters, including but not limited to, firebox	1) H-9851 is equipped with NO _x and O ₂ CMS that is certified, calibrated, maintained and operated in accordance with the referenced requirements. 2) H-2501 is equipped with NO _x and O ₂ CMS. Navajo discovered that while the operating parameters of firebox temperature and combustion O ₂ were monitored for Heaters H-8801/8802, these parameters have not been used as a means of monitoring performance. 3) Referenced heaters were initially tested and are tested annually. H-0601 is monitored weekly using a handheld portable analyzer.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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temperature, air preheat temperature, heat input rate, and combustion O₂. Navajo shall evaluate the necessity of using firebox or bridgewall temperatures and additional operating parameters and agrees to use such parameters as a means of monitoring performance where Navajo and EPA mutually-agree to their effectiveness. (CD¶16.C.ii). As of January 23, 2014 (notarized date of application), there are no heaters or boilers at the Artesia Refinery with a capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV) subject to Monitoring requirement (1). (2) For heaters with a heat input capacity of equal to or less than 100 MMBTU/hr of HHV, the permittee shall conduct an initial performance tests for NO_x. The results of these tests shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. (CD¶16.C.iii). This condition applies to the following heaters: • Heaters H-0352, H-0353, and H-0354 • Heater H-0020 • Heaters H-0600 and H-0601 The permittee has completed all of the initial performance tests.				
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(3) For heater H-0601 compliance shall be demonstrated by continuously monitoring stack oxygen (O ₂) to maintain a 3-hour average below 6.0 vol%. As a further check of compliance, Navajo shall monitor stack NOx at least twice a month using a portable analyzer to assure that the measured NOx value does not exceed the compliance threshold of 38 ppmv NOx. (CD 16.C.iii)				
Recordkeeping: (1) The permittee shall keep records of the Fuel firing rates and Sulfur limits monitored for Condition A110.A. (2) The permittee shall keep records of the initial performance tests. (3) The permittee shall keep records of the stack oxygen monitoring and the portable analyzer tests.	1) Fuel firing rate records are maintained in Pi. 2) and 3) Test records are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110. Condition B.111.D(7) does not apply to portable analyzer tests.	Reports required by B110 are submitted as applicable.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers F. NOx Monitoring and Testing for Heaters permitted after the Consent Decree (Units Heaters H-0019, H-0362, H-0363, H-0364, H-2421, H-3402, H-3403, H-2501, H-8801/8802, and H-9851) Requirement: For the Heaters permitted after the Consent Decree, continuous compliance with their respective NOx	Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

permit emissions limits in Table 106.A shall be demonstrated by monitoring as follows. (NSR 0195M35, Condition A204.E)				
Monitoring: (1) For heaters with a heat input capacity greater than 150 MM Btu/hr (LHV Basis), the permittee shall install and operate CMS to measure NO_x and O₂ by the startup date of each heater. Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specifications of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable. Condition A204.F(1) applies to heater H-9851. (2) For heaters with a heat input capacity of equal to or less than 150 MM Btu/hr (LHV) but greater than 100 MM Btu/hr (LHV), Navajo shall: (a) install and operate CMS to measure NO_x and O₂ by the startup date of each heater; or (b) submit to the Permit Program Manager for NMED approval, by no later than 90 days after the startup date of each heater, a proposal for	1) H-9851 has a CMS installed and data maintained in Pi. 2) H-2501 & H-8801/8802 has a CMS installed and data maintained in Pi. 3) Initial performance tests were completed as required. 4) Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

monitoring based on operating parameters. Operating parameters to consider include, but are not limited to, firebox temperature, air pre-heat temperature, heat input rate, and combustion O₂. Navajo agrees to use such parameters as a means of monitoring performance. Condition A204.F(2) applies to heaters H-2501 and H-8801/8802 (3) For heaters with a heat input capacity of equal to or less than 100 MM Btu/hr (LHV basis), the permittee shall conduct an initial performance test by no later than 180 days after the startup date. The results of this test shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. This condition applies to the following heaters: • Heaters H-0362, H-0363, H-0364, and H-2421 • Heater H-0019 • Heaters H-3402 (AMP approved by EPA, see (4)) , initial performance test completed on July 10, 2013 • Heater H-3403, initial performance test completed on April 30, 2013 (4) US EPA has approved an Alternative				
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Monitoring Plan (AMP) for Unit H-3402 for utilizing the oxygen monitor on the H-3402 Unit 34 Hydrocracker Reboiler 1 as a parametric means for demonstrating compliance with NSPS Ja, NOx monitoring via a CMS. In accordance with the AMP, the permittee shall accomplish the following:

- (a) Install flow indication on the fuel line to provide historical data of the fuel to the Mild Hydrocracker (Unit 34) by January 1st, 2015.
- (b) Monitor the process historical data of the HEP purchased natural gas pressure, and the high pressure fuel balance drum (D-0770).
- (c) Upgrade the existing the Mild Hydrocracker (Unit 34) Reboiler Heater (H-3402) oxygen monitor to perform daily calibrations as required in 40 CFR60.13(d)(1). (Note that the sample placement does not conform to CMS requirements for process reasons).
- (d) Conduct biennial performance tests according to the requirements in 40CFR 60.104a(i).
- (e) Establish a maximum or curve excess O2 operating limit – (MOPV) as required under 40 CFR60.107a(c)(6) utilizing the existing monitor.
- (f) Include Reboiler Heater (H-3402)

hours of refinery fuel gas usage and any deviations during such time as required by 40 CFR 60.7 for periodic reporting.				
Recordkeeping: (1) The permittee shall keep records of the monitoring proposals submitted to the Permit Program Manager for approval and whether the submittal was approved. (2) The permittee shall keep records of the CMS data, calibration, and recertification's monitored in Condition A204.A, Summary of Compliance. (3) The permittee shall keep records of the performance tests. (4) The permittee shall keep records of the implementation of the AMP and all required monitoring specified in the AMP.	1) Records are maintained by the Navajo Environmental Department. 2) CMS data maintained in Pi. 3) Performance tests are maintained by the Navajo Environmental Department. 4) the AMP is maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as applicable.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers G. NSPS Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (Boilers and heater subject in Table <u>103.E</u>) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Db (NO _x -60.44b, SO ₂ -60.42b, & PM-60.43b) for the	Heater H-2501 and Boilers B-0007, B-0008, and B-0009 each have a NO _x CEMS as required by NSPS Subpart Db.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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affected sources in Table 103.E.				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.48b, Subpart Db.	Heater H-2501 and Boilers B-0007, B-0008, and B-0009 each have a NOx CEMS as required by NSPS Subpart Db.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.49b, Subpart Db.	NOx records are maintained in Pi. Test records are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.49b, Subpart Db.	Navajo submitted NSPS Subpart Db reports semiannually as follows: 1/30/2017 7/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.45b and 60.46b.	Navajo complies with the requirements of the Compliance Testing.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers H. NSPS Subpart Dc, Standards of Performance for <u>Small Industrial-Commercial - Institutional</u> Steam Generating Units (Boilers and heater subject in Table 103.E.) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Dc (NOx-60.44c, SO ₂ -60.42c, & PM-60.43c) for the affected sources in Table 103.E.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.47c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.48c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.48c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.44c and 60.45c.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers I. NSPS Subpart J, Standards of Performance for Petroleum Refineries (Boilers and heater subject in Table 103.E) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & J for the affected sources in Table 103.E.	Navajo continues to comply with the applicable monitoring requirements of NSPS Subpart J as applicable to the affected heaters, boilers, SRU1/SRU2, and the FCC shown in Table 103E. The refinery fuel gas is continuously monitored for H2S content on a 3-hour rolling average basis. The SRU1/SRU2 tail gas incinerator is continuously monitored for SO2 content, corrected to 0% O2, on a 12-hour rolling average basis. The FCCU Catalyst Regenerator Scrubber exhaust is continuously monitored for SO2 and CO. PM is monitored annually. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply	All of the continuous monitors are operated,	☒ Continuous	☒ Yes	☐ Yes

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with the applicable monitoring and testing requirements of 40 CFR 60, Subpart J.	maintained, and certified as required.	☒ Intermittent	☐ No	☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart J.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart J.	Navajo submitted NSPS Subparts J reports semiannually as follows: 1/30/2017 7/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A204 Heaters/Boilers J. NSPS Subpart Ja, Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007 (Boilers and heater subject in Table 103.E) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Ja for the affected sources in Table 103.E.	Navajo continues to comply with the applicable monitoring requirements of NSPS Subpart Ja as applicable to the affected heaters, SRU3, and flares as shown in Table 103E, except for deviations included in this report. The refinery fuel gas is continuously monitored for H2S content on a 3-hour rolling average basis. The flares met the minimum heating value, tip velocity, and visible requirements as documented by the compliance testing detailed in previous responses. The SRU3 tail gas incinerator is continuously monitored for SO2 content, corrected to 0% O2, on a 12-hour rolling average basis.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ja.	All of the continuous monitors are operated, maintained, and certified as required.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ja.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ja.	Navajo submitted NSPS Subparts Ja reports semiannually as follows: 1/30/2017 7/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers K. BACT NOx Limit, Continuous Monitoring System (CMS) (Unit B-0009) Requirement: The permittee shall comply with the allowable emission limits in Table 106.A and Condition A106.E that represent NOx BACT limits for the BACT	Navajo complies with the BACT requirements for B-0009, except for deviations previously reported or identified at the end of this report. .	☒ Continuous ☐ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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requirements. (NSR 0195M35, Condition A204.I and revised)				
Monitoring: (1) The Permittee shall comply with the CMS monitoring as detailed in Condition A204.D. (2) The permittee shall conduct an EPA Method test within six (6) months of permit issuance using EPA reference test methods in 40 CFR 60 for NO _x and O ₂ and CO ₂ . Data from the CMS RATA testing may be used to satisfy this testing requirement.	1) Navajo complies with Conditon A204.D. 2) B-0009 went into service on 4/14/2015. The initial RATA compliance test was completed on 11/06/2015, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: (1) The permittee shall keep records of the CMS initial calibration and recertification monitored in Condition A204.B, Summary of Compliance. (2) Records of EPA Methods tests shall be maintained for the Boiler.	1) Navajo complies with A204.B. 2) The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: (1) The permittee shall report in accordance with Section B110, to include the CMS initial calibration and recertification. (2) The permittee shall summarize in tabular form the results of the EPA Methods tests for NO _x and O ₂ and CO ₂ , specifying the emissions rates in pounds per hour and lb/MMBtu. The table shall include the average concentration of all relevant pollutant species.	1) Navajo complies with B110. 2) The initial compliance test was completed on 11/06/2015, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

A204 Heaters/Boilers L. MACT Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters (Boilers and heater subject in Table 103.E) Requirement: The units are subject to 40 CFR 63, Subpart DDDDD and the permittee shall comply with the applicable requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Navajo performs the annual tune up required by MACT Subpart DDDDD.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Navajo performs the annual tune up required by MACT Subpart DDDDD.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	MACT Subpart DDDDD reports were submitted semi-annually as follows: 01/30/2017 07/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers M. EPA Methods Test (Unit B-0009) Requirement: Compliance with CO BACT Limit and allowable emission limits in Table 106.A shall be demonstrated by emissions tests ensuring the unit is operating correctly and within desired	Navajo complies with A204.K. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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parameters. (NSR 0195M35, Condition A204.K and revised)				
Monitoring: The permittee shall conduct an EPA Method test no later than 180 days after permit issuance using EPA reference test methods in 40 CFR 60. Emission testing is required for CO. Test results that demonstrate compliance with the CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits.	Navajo complies with A204.B. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: Records of EPA Methods tests shall be maintained for the Boiler.	Navajo complies with A204.B. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the requirements of Section B111.D and summarize in tabular form the results of the EPA Methods test for CO, specifying the emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species.	The initial compliance test was completed on 11/06/2015, except for deviations previously reported or identified at the end of this report. MACT Subpart DDDDD reports were submitted semi-annually as follows: 01/30/2017 07/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers N. Verification of Energy Efficiency BACT Control Requirements (Unit B-0009) Requirement: The permittee shall comply with the allowable emission limits and the following BACT requirements. (NSR 0195M35, Condition A204.L and revised) 1. Operation and Maintenance (BACT #6):	Navajo complies with these conditions. The most recent periodic inspection and tune-up was completed on 01/16/2017.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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a. Periodic Boiler Tuning – The boiler shall be tuned annually to maintain optimal thermal efficiency. b. Periodic Boiler Inspection and Repair for air leakage – The boiler shall be inspected annually to maintain optimal thermal efficiency. c. Periodic Boiler Inspection and Cleaning for tube fouling – The boiler shall be inspected annually and necessary cleaning performed to prevent tube fouling. 2. Next Generation Ultra-low-NO_x high efficiency burners (NGULNB) (#5) shall be installed in the boiler design. 3. Flue gas economizer (BACT #2) – A heat exchanger shall be installed to recover heat from the exhaust gas to preheat incoming boiler feedwater to attain industry standard performance (IMO) for thermal efficiency. 4. Boiler insulation (BACT #4) – The boiler shall be designed and installed with boiler insulation to an optimum insulation thickness and material to achieve maximum energy efficiency. The OMP shall include the insulation				
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design and maintenance schedule. 5. Oxygen Trim Control (BACT #7) – An Oxygen Trim Control system shall be designed and installed on the boiler to monitor oxygen concentration in the flue gas, and the inlet air flow is adjusted to maximize thermal efficiency. 6. Boiler blowdown minimization using manual analysis (BACT #3) – The Operation and Maintenance Plan (OMP) shall include methods and procedures to minimize blowdowns from the boiler to keep emissions at a minimum. 7. Condensate recovery (BACT #8): Condensate shall be recovered as represented in the application to achieve maximum energy efficiency. Condensate recovery shall be maximized through annual steam trap inspections and repairs.				
Monitoring: The Permittee shall develop an Operation and Maintenance Plan (OMP) to include at least the requirements listed above within 12 months of commencement of operations. The Permittee shall review the OMP annually to ensure it's effectiveness in meeting the requirements above and recommend changes.	Navajo complies with these conditions. The initial compliance test was completed on 11/06/2015. The OMP was submitted on 04/12/2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: (1) Records demonstrating compliance with the energy efficiency requirement	Navajo complies with these conditions.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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shall be recorded and summarized in the OMP. (2) The Permittee shall maintain a copy of the OMP onsite and available for inspection.				
Reporting: (1) The permittee shall notify the Department when the OMP has been prepared and available for review. (2) The permittee shall report in the semi-annual report a summary of actions covered in accordance with the OMP, and in accordance with Section B110.	Navajo complies with these conditions. No changes occurred to the OMP during this reporting period. Reports required by B110 are submitted as applicable.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers O. Periodic Emissions Tests (Unit B-009, CO BACT Limit) Requirement: Compliance with the CO BACT Limit and allowable emission limits in Table 106.A shall be demonstrated by performing periodic emissions tests.	Navajo complies with these conditions.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct periodic portable analyzer emission tests or EPA Reference Method Tests for CO at the intervals in the following schedule: First Test --- in accordance with the schedule in Section B111.A(2). Second Test --six (6) months after the first test is completed. All subsequent testing shall be done annually. Section B108 General Monitoring Requirements apply to this condition.	Navajo complies with these conditions. Periodic test completed on: 10/05/2016 07/24/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

The permittee shall meet the testing requirements in Section B111.				
Recordkeeping: Records of periodic emission tests shall include the boiler fuel flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results. Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.	Data is maintained in Pi.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.	Reports required by B109, B110, and B111 are submitted as applicable.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A206 Flares A. FL-0400, FL-0403 Requirement: (NSR 0195M35, Condition A206.A) (1) An alarm system in good working order shall be connected to Flare FL-0403 which will signal non-combustion of the gas. (2) The acid gas flow meter for flare FL-0400 or FL-0403 shall be operated and calibrated at a frequency and by the procedure specified by the manufacturer. A chart recorder or data logger (electronic storage) shall continuously record the amount of gas measured by the flow meter.	1) FL-0403 (ALKY/CCR) is equipped with a flare alarm. 2) The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 is monitored during acid gas flaring by a flow meter. No acid gas flaring has occurred since September 5, 2006.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 as required under A105.B shall be monitored during flaring by a flow meter. The flow meter shall be operated continuously 24 hours per day, 365 days per year except for periods of flow meter maintenance or repair. The upper range of the flow meter shall be sufficient to record the highest expected flow rate of fuel gas sent to flare. The reading of this flow meter and the flow meter to measure acid gas flow as required under Condition A105.B shall be	The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 is monitored during acid gas flaring by a flow meter.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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used to determine compliance with emission limits at A106.C.				
Recordkeeping: (1) Records of all periods of operation during which the flare pilot flame is absent as included in the MACT subpart CC semi-annual reports. (2) Records of the quantity of supplemental fuel used during each acid gas flaring incident to provide supplemental heat to flare FL-0400 or flare FL-0403. (3) The permittee shall maintain records from the flow meter of the amount of gas sent to the flare.	1) Flare pilot outages are included in the MACT CC semiannual reports dated as follows: 02/28/2017 08/29/2017 1) and 2) Records of supplemental fuel use and flare pilot flame are maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	1) Flare pilot outages are included in the MACT CC semiannual reports dated as follows: 02/28/2017 08/29/2017	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A206 Flares B. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Flares listed in Table <u>103.K</u>) Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in <u>Tables 103.B.</u> (63.640).	Navajo complies with all the requirements of MACT CC as shown for all affected sources in table 103.B. Navajo uses a third party LDAR contractor, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	Navajo complies with all the requirements of MACT CC as shown for all affected sources in table 103.B. Navajo uses a third party LDAR contractor.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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(NSR 0195M35, Condition A207.A)				
Monitoring: The permittee shall comply with the applicable monitoring requirements of NSPS Subpart J or Ja.	All of the continuous monitors are operated, maintained, and certified as required.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain records in accordance with the applicable requirements of NSPS Subparts J and Ja.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J and Ja.	Navajo submitted NSPS Subparts J and Ja reports semiannually as follows: 1/30/2017 7/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A207 Sulfur Recovery Plant (SRP), Tail Gas Incinerator (TGI) B. The following BACT SO ₂ work practices and equipment shall apply to the SRP (SRU3/TGTU3/TGI3): (PSD-NM-0195-M25) Maintain at least 98% SRP on-stream operations. This includes curtailing refinery operations as necessary when SRU capacity is limited during planned startup, shutdown, and maintenance events. Maintain adequate SRP excess capacity to reduce the frequency and quantity of refinery excess SO ₂ emissions. After the refinery expansion project proposed units are constructed, the proposed SRU3 will provide at least 25% excess capacity. Continue to maintain and use a	Navajo has installed BACT, and implemented the work practices, as described in this permit condition.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

sulfur shedding plan to prevent or reduce acid gas flaring events from refinery upsets. An acid gas flaring event is defined as excess SO₂ emissions greater than 500 pounds in a 24-hour period. The plan shall state specific actions that may be taken to reduce or prevent acid gas flaring. The actions taken during any event will be based on the refinery operators' discretion, considering safety and other factors related to prudent operation. This plan is subject to review by NMED or EPA, and shall be amended upon written request by NMED or EPA. The sulfur shedding plan may include, but is not limited to the following options: (a) Store sour water to reduce acid gas generation from the sour water strippers (b) Reduce the operating rate of one or more amine strippers to lower the acid gas generation rate (c) Reduce one or more hydrotreating unit throughput rates to lower acid gas generation rate Use hydrogen, when available, as				
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SRU fuel during startup and hot standby to minimize carbon deposits on the SRU catalysts. During startup and shutdown and to the extent practicable, process vessels shall be depressurized into other process equipment rather than venting to a flare. The permittee shall document instances when this is not practicable.				
A207 Sulfur Recovery Plant (SPR), Tail Gas Incinerator (TGI) C. SRU1, SRU2, and SRU3 Requirement: (NSR 0195M35, Condition A207.C and revised) The permittee shall demonstrate compliance with the H₂S, SO₂, lb/hr, tpy emission limits by completing the following requirements, monitoring, recordkeeping and reporting: (1) A flow meter shall be installed, operated, calibrated, and maintained on the sour water stripper streams that go to the SRUs. (2) An SO₂ CEMS and flow meter shall be installed on the SRU1/SRU2 and SRU3 incinerator stacks. In addition, these units shall be equipped with instruments to measure and record sulfur concentration	1) A flow meter is in place on the sour water stripper streams into Units SRU1, SRU2, and SRU3. 2) The SO₂ CEMS and flow meter on the SRU1/SRU2 and SRU3 incinerator stacks, and the instruments used to measure sulfur concentration and flow rates of the gas streams into SRU1, SRU2, and SRU3, are calibrated and maintained at a frequency and method specified by the manufacturer, or as dictated by operating conditions. The SO₂ CEMS follow the quality assurance and quality control procedures in 40 CFR 60 Subpart J and Appendix F. 3) The minimum acceptable level of data capture for all instruments measuring flow and concentration of sulfur streams into the SRU1, SRU2, and SRU3 including the CEMS and flow meters on the incinerator stacks shall be at least 90% for each month. The 10% lost data includes periods when the concentration and corresponding flow are not being measured. as a result of calibrations or breakdowns. The data capture is reported in the semi-annual NSPS Subparts J and Ja reports.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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and flow rates of the gas streams into SRU1, SRU2, and SRU3. The CEMS, flow meters, and data loggers shall be calibrated and maintained. In addition, the calibration of the SO₂ CEMS shall follow the quality assurance and quality control procedures in 40 CFR 60 Subpart J or Ja and Appendix F. (3) The minimum acceptable level of data capture for all instruments measuring flow of sulfur streams into the SRU1, SRU2, and SRU3, as well as the CEMS and flow meters on the incinerator stacks, shall be at least 90% for each semi-annual period. The 10% lost data will include all periods when the concentration and corresponding flow are not being measured as a result of calibrations or breakdowns.				
Monitoring: The gas stream feeding SRU1, SRU2, and SRU3 from the amine regeneration units and the sour water stripper shall be tested at least monthly for H₂S concentration. The permittee shall monitor the following: (1) Flow rate of sour water stream to SRUs, (2) SO₂ concentration in SRU incinerator stacks and (3) Flow rate of the SRU incinerator stacks.	1), 2), and 3) Navajo complies with the requirements of this permit condition.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Recordkeeping: The permittee shall maintain records in accordance with the applicable requirements of NSPS Subparts J or Ja and MACT Subpart UUU. The permittee shall also keep records of the following: (1) Flow rate of sour water stream to SRUs, (2) SO₂ concentration in SRU incinerator stacks and (3) Flow rate of the SRU incinerator stacks.	1), 2), and 3) Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☒ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J or Ja, MACT Subpart UUU, and Section B110.	Navajo submitted NSPS Subparts J, Ja and MACT Subpart UUU reports semiannually as follows: 1/30/2017 7/28/2017	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A207 Sulfur Recovery Plant (SPR), Tail Gas Incinerator (TGI) D. 40 CFR 60, Subpart J (Unit(s) SRU1 and SRU2) Requirement: The permittee shall comply with the applicable requirements of 40 CFR 60, Subpart J.	Navajo complies with the requirements of Subpart J.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall install a continuous monitoring device to monitor compliance with the H₂S limit. (40 CFR 60.105(a)(3-4))	H-0473 SRU1 and SRU2 TGI has a CMS installed.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain the continuous emission records.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Reporting: The permittee shall comply with the reporting requirements of 40 CFR 60, Subpart J.	Navajo submitted NSPS Subpart J reports semiannually as follows: 1/30/2017 7/28/2017	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives A. NSPS Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after January 4, 1983, and on or before November 7, 2006 (Fugitives subject in Table 103.B)	As of May 1, 2016, Navajo has elected to comply with 60.592a(e) of NSPS Subpart GGGa for all process units affected by NSPS Subpart GGG regardless of whether or not those process units have triggered NSPS Subpart GGGa applicability. Fugitive components subject to this rule are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. These are monitored and reported in a NSPS Subpart GGGa semiannual report	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart GGG for all sources in Table 103.B (affected units and voluntarily units). This table also includes areas that are voluntarily following the NSPS Subpart GGG monitoring requirements. (See footnote 1 to Table 103.B)	As of May 1, 2016, Navajo has elected to comply with 60.592a(e) of NSPS Subpart GGGa for all process units affected by NSPS Subpart GGG regardless of whether or not those process units have triggered NSPS Subpart GGGa applicability. Fugitive components subject to this rule are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. These are monitored and reported in a NSPS Subpart GGGa semiannual report	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 60, Subpart GGG.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart GGG.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart GGG.	Navajo submitted NSPS Subpart GGGa reports semiannually as follows: 2/28/2017 8/29/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives	Navajo continues to comply with the applicable requirements of NSPS Subpart GGGa as applicable, except for the deviations noted in	☐ Continuous	☒ Yes	☐ Yes

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B. NSPS Subpart GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (Fugitives subject in Table 103.B) Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart GGGa for all sources in Table 103.B (affected units and voluntarily units). This table also includes areas that are voluntarily following the NSPS Subpart GGGa monitoring requirements.	semiannual reports. Fugitive components subject to either of these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☒ Intermittent	☐ No	☒ No
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 60, Subpart GGGa.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart GGGa.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart GGGa.	Navajo submitted NSPS Subpart GGGa reports semiannually as follows: 2/28/2017 8/29/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives C. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Fugitives subject in Table 103.B) Requirement: The permittee shall comply with all applicable requirements of MACT	The Gasoline Loading Rack is equipped with a carbon adsorption system.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Tables 103.B. (63.640). For all activities in Table 103.B that are not subject to MACT CC, the permittee voluntarily performs a LDAR program for those units and that program meets the requirements of MACT CC.				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	The Gasoline Loading Rack carbon absorption has a VOC CEMS installed in the exhaust air stream.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Records are kept by Holly Energy Partners (HEP) either at the Gasoline Loading Rack or at the HEP Artesia Office.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted NSPS Subpart GGGa reports semiannually as follows: 2/28/2017 8/29/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives D. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (Fugitives subject in Table 103.B) Requirement The permittee shall comply with all applicable requirements of NSPS, 40 CFR Part 60.690, Subpart QQQ.	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations noted in semiannual reports. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations noted in semiannual reports. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.696.	Records are maintained by Navajo Environmental Department, except for deviations noted in semiannual reports.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.697.	Navajo submitted NSPS Subpart QQQ reports semiannually as follows: 1/30/2017 7/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A209 Fugitives E. Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available Significant permit revision in accordance with 20.2.72 NMAC. The facility wide fugitive VOC emission limit shown above and in Table 106.A of this permit.	Navajo understands that minor changes to the facility piping and components that affect fugitive emissions will be added during the next permit modificaiton.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A210 Loading Racks A. Truck and Rail Loading (Unit shown in Table 106.G) Requirement: Compliance with the allowable emission limits in Table 106.G shall be demonstrated by not exceeding the monthly rolling 12-month total throughput for each loading rack for each different product in gallons per year (barrels/year).	Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall monitor the throughput volumes on a monthly basis.	The Truck & Rail Loading Racks volumes are maintained by Navajo's Accounting and Environmental Departments.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall record the monthly throughput volume for each loading rack for each different product. Each month during the first 12 months of monitoring the permittee shall record the cumulative condensate loadout volume and after the first 12 months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total loadout volume.	The Truck & Rail Loading Racks volumes are maintained by Navajo's Accounting and Environmental Departments.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Records shall also be maintained in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2017 8/29/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A210 Loading Racks B. Fuel Truck Loading Rack (Units subject in Table 103.D) (40 CFR 63, Subpart CC) Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries. Specially, the truck loading rack shall be equipped with a carbon adsorption system for compliance with the MACT requirements.	The Truck Loading Rack has a carbon absorption system installed.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. Specifically 63.427(a)(2), where a carbon adsorption system is used, a continuous emission monitoring system (CEMS) capable of measuring organic compound concentration shall be installed in the exhaust air stream.	The Truck Loading Rack has a CEMS installed.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart CC.	Records are kept by Holly Energy Partners (HEP) either at the Gasoline Loading Rack or at the HEP Artesia Office.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart CC.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2017 8/29/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A211 Fluid Catalytic Cracking Unit (FCC) A. Continuous Monitor System(CMS) (Unit FCC REGEN) Requirement: <u>(1) Consent Decree Limits on PM and SO₂ emissions from the FCC:</u> By no later than December 31, 2003, the Wet Gas Scrubber (WGS) on the FCC Regenerator shall comply with the following limits: (CD ¶12.B & ¶13.B) (d) SO₂ concentration not to exceed 25 ppmvd on a daily rolling 365-day average basis and 50 ppmvd on a daily rolling 7-day average basis, each corrected to 0% oxygen. Compliance with this emissions limit shall be demonstrated on an ongoing basis through the use of CMS; and (e) a particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis (CD ¶13.B). To demonstrate compliance with this requirement, the Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9, Opacity Test in accordance with their approved	1d) The FCC catalyst regenerator exhaust is continuously monitored for SO₂. 1e) The catalytic cracking regenerator is tested annually for PM and was tested on the following date: 01/04/2017 1f) Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9. 2) The FCC exhaust is continuously monitored for NO_x and CO. Deviations were reported to the Department as excess emission events and on the NSPS Subpart J report.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
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Alternative Monitoring Plan (AMP). (f) As the FCC Regenerator is subject to the provisions of 40 CFR 60.102 (NSPS Subpart J), it shall not discharge to the atmosphere gases exhibiting greater than 30 percent opacity, except for one six-minute average opacity reading in any one-hour period. (2) <u>Consent Decree Limits on NO_x and CO emissions from the FCC:</u> The FCC shall comply with NO_x and CO emission limits as follows: (a) The concentration-based (ppmvd) NO_x emission limit based on daily rolling 7-day and daily rolling 365-day averages, corrected to 0% oxygen as established pursuant to the Consent Decree, unless EPA rejects the proposed limit and establishes a different NO_x emission limit, in which case the FCC shall comply with EPA's established limit. Under no circumstances shall this emission limit be greater than a concentration-based limit that would be equivalent to 34.9 lbs/hr. The 7-day FCC NO_x emission limits, shall not apply during periods of Hydrotreater Outage provided that the FCC				
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(including associated air pollution control equipment) is maintained and operated in a manner that minimizes emissions in accordance with an EPA-approved good air pollution control practices plan. Navajo shall comply with the plan at all times, including periods of startup, shutdown, and malfunction of the hydrotreater. The daily rolling 365-day average NO_x emissions limit shall apply during periods of hydrotreater outages. The NO_x limits are: (1) 87.3 ppmvd NO_x, corrected to 0% O₂ on a daily rolling 7-day average, and (2) 58.1 ppmvd NO_x, corrected to 0% O₂ on a daily rolling 365-day average (b) The NSPS Subpart J emission limit of 500 ppmvd CO corrected to 0% O₂ on a 1-hour average basis and 100 ppmvd CO corrected to 0% O₂ on a daily rolling 365-day average basis, by no later than December 31, 2003.				
Monitoring: (1) A continuous monitor system (CMS) for CO, O₂, SO₂ and NO_x shall be installed, calibrated, maintained, and	1) The FCCU Catalyst Regenerator Scrubber exhaust is continuously monitored for CO, O₂, SO₂, and NO_x. PM is monitored annually. 2) The FCC regenerator CMS were recertified on	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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operated on the FCC Catalyst Regenerator vent stack(s) downstream of the scrubber in accordance with 40 CFR Part 60, §60.13, Appendix A, and the applicable performance specifications of Appendices B (Specifications 2 and 3) and F. The CMS shall be used to demonstrate compliance with CO, SO₂ and NO_x emissions limits and to report compliance with the terms and conditions of the Consent Decree. The CMS and process data shall be made available, by permittee, to applicable Federal and State Agencies (NMED) upon demand as soon as practicable. (CD ¶11.F, 12 D, and 14.C) (2) The FCC Regenerator Scrubber NO_x, SO₂, CO and O₂ CMS shall be recertified annually. (3) The CMS data shall be monitored to ensure the CO, SO₂ and NO_x emission limits for the FCC are met. (4) The Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9 Opacity test to demonstrate compliance with the particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis and opacity limit of 30%. Permittee shall meet testing requirements of B111.	the following dates: CO 01/03/2017 & 01/04/2017 SO₂ 01/03/2017 & 01/04/2017 NO_x 01/03/2017 & 01/04/2017 O₂ 01/03/2017 & 01/04/2017 3) CMS data is used to ensure emissions limits are met. 4) The catalytic cracking regenerator is tested annually for PM and was tested on the following date: 01/04/2017 Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9.			
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Recordkeeping: The permittee shall maintain the records of: (1) The certification and re-certification of the CMS. (2) Modifications to the FCC's good air pollution control practice plan to minimize NOx emissions shall be summarized on an annual basis if any changes were made. (CD ¶11.G) (3) The permittee shall keep records of CMS data monitoring NO₂, SO₂, PM₁₀ and CO emissions from the FCC. (CD ¶11.F, CD ¶12.D & CD ¶14.C) (4) Records of NOx, CO, SO₂ ppmvd, lb/hr, tpy; PM lb/hr, tpy and opacity. TPY shall be based on a monthly rolling 12-month total. (5) The permittee shall keep records of annual PM stack tests and weekly Method 9 observations conducted on the FCC. For any opacity observations conducted in accordance with the requirements of EPA Method 9, record the information on the form referenced in EPA Method 9, Sections 2.2 and 2.4.	1), 2), 3), 4), and 5) Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110 and testing requirements of B111.	Navajo submitted NSPS Subparts J and Ja reports semiannually as follows: 1/30/2017 7/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A211 Fluid Catalytic Cracking Unit (FCC) B. Performance Testing (Unit FCC REGEN) Requirements: (1) The permittee shall demonstrate compliance with the NSPS Subpart J particulate matter emission limit at Table 106.A by conducting an initial performance test in accordance with NSPS Subpart A, §60.8 and NSPS Subpart J, §60.106(b). The particulate matter stack test shall be repeated on an annual basis. (2) The permittee shall comply with all applicable performance testing requirements in accordance with MACT Subparts A and UUU.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Testing shall be conducted in accordance with NSPS Subparts A and J, and in accordance with MACT Subparts A and UUU.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain performance test records in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance with Section B109.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report performance test results in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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with Section B110.				
A212 Cooling Towers A. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Cooling Towers subject in Table 103.F) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart CC for heat exchange systems for all affected sources shown in Table 103.F attached. (63.654(a), 63.640(h)(6))	Navajo complies with the applicable requirements for heat exchange systems, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. (63.654(c), (d), (e), (f))	Navajo complies with the applicable requirements for heat exchange systems, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart CC. (63.654(g), 63.655(i)(4), (i)(5))	Records are maintained by the onsite LDAR contractor and by the NAvajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart CC. (63.655(f), (f)(1)(vi), (g)(9), (h)(1), (7))	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2017 8/29/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A212 Cooling Towers B. Cooling Tower Operations (Cooling Towers subject in Table 103.F) Requirement: Compliance with the allowable emission limits in Table 106.H shall be demonstrated by meeting the following requirements:	by 1) Navajo operates with less than six (6) recirculating pumps per heat exchange system. 2) The pump capacity is less than 65,500 gpm 3) The Total Dissolved Solids (TDS) is sampled by the Navajo Lab and results maintained in the VortalBLISS system and maintained by the Navajo Environmental Department. 4) Drift eliminators installed are rated by the	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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1) operate a maximum of six (6) recirculating pumps at any one time; 2) ensure that each pump capacity shown in Table 104.A are not exceeded gallons per minute for each cooling tower (65,500 gpm total maximum rate for 6 pumps); 3) limit the Total Dissolved Solids (TDS) content for the cooling tower recirculating water system to 3500 ppmw, based on a monthly rolling 12-month annual average; 4) ensure that the drift eliminator are rated by the manufacturer at 0.001% or 0.003 drift or less as shown in Table 104.A; and 5) ensure that the drift eliminator is present and in good working order. The permittee shall measure the Total Dissolved Solids (TDS) content of the recirculating water through direct laboratory analysis, or may use a conductivity meter on the recirculating water system for the cooling tower. The correlation between conductivity of the water and the TDS content shall be taken as $0.9 * \text{conductivity } (\mu\text{mhos/cm}) = \text{TDS (ppmw)}$ unless a new correlation is determined through laboratory analysis and submitted to the Permit Program Manager	manufacturer for 0.001% or 0.003 drift. 5) Drift eliminators are inspected on an annual basis.			
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for approval.				
Monitoring: The permittee shall: 1) Monitor the recirculating water TDS content by direct laboratory analysis of the TDS or through use of conductivity meter values and correlated TDS on a monthly basis; and a. Any correlation other than the 0.9 value described above shall be developed by the permittee by independent laboratory measurement of at least 10 water samples with approximately evenly spaced measured TDS values that bracket the minimum and maximum values expected. The highest laboratory TDS sample used for the correlation shall be greater than the maximum allowable TDS of 3500 ppmw. 2) Perform an annual inspection of the drift eliminator and perform any maintenance necessary to ensure the device operates according to the manufacturer's specifications.	1) The Total Dissolved Solids (TDS) is sampled by the Navajo Lab and results maintained in the VortalBLISS system and maintained by the Navajo Environmental Department. 2) Drift eliminators are inspected on an annual basis. 3) The Cooling Towers are monitored for VOC breakthrough via the El Paso Method described in Appendix P.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

3) The permittee shall monitor the cooling water inlet and outlet streams for hydrocarbons on an annual basis using either EPA Method 8015 with a large enough sample to achieve accurate quantification of hydrocarbon content, EPA Method 8260, EPA Method 8270 or a similar method as approved by the Department prior to testing.				
Recordkeeping: The permittee shall maintain the following records: 1) Manufacturer's specifications demonstrating maximum capacities of the recirculating water pumps and the manufacturer's specification for the drift eliminator specified drift rate; 2) Monthly TDS and monthly rolling 12-month average; 3) If a conductivity meter is installed, a record of the correlation between conductivity and TDS, any laboratory analyses used to determine the correlation, and all related calculations; 4) Annual drift eliminator inspection and any records of maintenance performed.	1) Records maintained by the Navajo Inspections Department. 2) Records maintained by the Navajo Environmental Department. 3) Records maintained by the Navajo Lab. 4) Records maintained by the Navajo Inspections Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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The permittee shall maintain records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2017 8/29/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A213 Wastewater Systems A. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (Unit MAIN API) Requirement: Beginning December 31, 2003, all remaining and newly installed individual drain systems, oil-water separators, and aggregate facilities not previously specified shall be affected facilities, as the term is used in the NSPS, 40 CFR Part 60, Subpart QQQ, and shall be subject to and comply with the applicable requirements of 40 CFR Part 60, Subpart QQQ. (CD ¶29) The permittee shall comply with all applicable requirements of NSPS Subpart QQQ for the affected sources in Tables 103.B, C, G. (60.690)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations noted in semiannual reports. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695 and 60.696)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations noted in semiannual reports. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping	Records are maintained by Navajo Environmental Department.	☐ Continuous	☒ Yes	☐ Yes

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requirements of 40 CFR 60.697.		☒ Intermittent	☐ No	☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.698.	Navajo submitted NSPS Subpart QQQ reports semiannually as follows: 1/30/2017 7/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A213 Wastewater Systems B. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Tables 103.B, C, G attached. (63.640).	Navajo complies with the requirements of MACT CC, except for deviations noted in semiannual reports.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	Navajo complies with the requirements of MACT CC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2017 8/29/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A213 Wastewater Systems C. Wastewater Treatment System (Units shown in Table 106.I) Requirement: Compliance with the emission limits in Table 106.I shall be demonstrated by properly maintaining and	Navajo complies with this requirement, except for deviations noted in semiannual reports.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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repairing the units, and running the Wastewater Model annually to calculate the maximum VOC emissions generated.				
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Monitoring: (1) Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events: (a) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period. (b) Unscheduled repairs that require a unit to be taken out of service for more than two hours in any twenty-four hour period. (2) The permittee shall annually run the Waste-Water Model to determine the hourly and annual emission rates, based on Toxchem V4 Input Parameters.	1) Navajo complies with this requirement, except for deviations noted in semiannual reports. 2) Navajo uses EPA's Water 9 waste-water model.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: (1) The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule. (2) The permittee shall maintain records of the Toxchem V4 Input Parameters and the emission calculation results compared to permit limits.	1) Navajo complies with this requirement, except for deviations noted in semiannual reports. 2) Navajo uses EPA's Water 9 waste-water model.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with the requirement of section B110.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
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PART 1 B General Conditions

1. Have these General Conditions been met during this reporting period? <u><i>If the section Heading is marked as N/A no remarks are required.</i></u> <u><i>Check only one box per subject heading.</i></u> <u><i>Explain answers in remarks row under subject heading.</i></u>	2. Was this facility in compliance with this requirement during the reporting period?	3. Does not apply
B100 Introduction A. N/A	☒ Yes Explain Below	☐ No Explain Below
REMARKS:		
B101 Legal A. Permit Terms and Conditions (20.2.70 sections 7, 201.B, 300, 301.B, 302, 405 NMAC) (1) The permittee shall abide by all terms and conditions of this permit, except as allowed under Section 502(b)(10) of the Federal Act, and 20.2.70.302.H.1 NMAC. Any permit noncompliance is grounds for enforcement action, and significant or repetitious noncompliance may result in termination of this permit. Additionally, noncompliance with federally enforceable conditions of this permit constitutes a violation of the Federal Act. (20.2.70.302.A.2.a NMAC) (2) Emissions trading within a facility (20.2.70.302.H.2 NMAC) (a) The Department shall, if an applicant requests it, issue permits that contain terms and conditions allowing for the trading of emissions increases and decreases in the permitted facility solely for the purpose of complying with a federally enforceable emissions cap that is established in the permit in addition to any applicable requirements. Such terms and conditions shall include all terms and conditions required under 20.2.70.302 NMAC to determine compliance. If applicable requirements apply to the requested emissions trading, permit conditions shall be issued only to the extent that the applicable requirements provide for trading such increases and decreases without a case-by-case approval. (b) The applicant shall include in the application proposed replicable procedures and permit terms that ensure the emissions trades are quantifiable and enforceable. The Department shall not include in the emissions trading provisions any emissions units for which emissions are not quantifiable or for which there are no replicable procedures to enforce the emissions trades. The permit shall require compliance with all applicable requirements. (3) It shall not be a defense for the permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (20.2.70.302.A.2.b NMAC) (4) If the Department determines that cause exists to modify, reopen and revise, revoke and reissue, or terminate this	☒ Yes Explain Below	☐ No Explain Below

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permit, this shall be done in accordance with 20.2.70.405 NMAC. (20.2.70.302.A.2.c NMAC)

- (5) The permittee shall furnish any information the Department requests in writing to determine if cause exists for reopening and revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. This information shall be furnished within the time period specified by the Department. Additionally, the permittee shall furnish, upon request by the Department, copies of records required by the permit to be maintained by the permittee. (20.2.70.302.A.2.f NMAC)
- (6) A request by the permittee that this permit be modified, revoked and reissued, or terminated, or a notification by the permittee of planned changes or anticipated noncompliance, shall not stay any conditions of this permit. (20.2.70.302.A.2.d NMAC)
- (7) This permit does not convey property rights of any sort, or any exclusive privilege. (20.2.70.302.A.2.e NMAC)
- (8) In the case where an applicant or permittee has submitted information to the Department under a claim of confidentiality, the Department may also require the applicant or permittee to submit a copy of such information directly to the Administrator of the EPA. (20.2.70.301.B NMAC)
- (9) The issuance of this permit, or the filing or approval of a compliance plan, does not relieve the permittee from civil or criminal liability for failure to comply with the state or Federal Acts, or any applicable state or federal regulation or law. (20.2.70.302.A.6 NMAC and the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2)
- (10) If any part of this permit is challenged or held invalid, the remainder of the permit terms and conditions are not affected and the permittee shall continue to abide by them. (20.2.70.302.A.1.d NMAC)
- (11) A responsible official (as defined in 20.2.70.7.AE NMAC) shall certify the accuracy, truth and completeness of every report and compliance certification submitted to the Department as required by this permit. These certifications shall be part of each document. (20.2.70.300.E NMAC)
- (12) Revocation or termination of this permit by the Department terminates the permittee's right to operate this facility. (20.2.70.201.B NMAC)
- (13) The permittee shall continue to comply with all applicable requirements. For applicable requirements that will become effective during the term of the permit, the permittee shall meet such requirements on a timely basis. (Sections 300.D.10.c and 302.G.3 of 20.2.70 NMAC)

B. Permit Shield (20.2.70.302.J NMAC)

- (1) Compliance with the conditions of this permit shall be deemed to be compliance with any applicable requirements existing as of the date of permit issuance and identified in Table 103.A. The requirements in Table 103.A are applicable to this facility with specific requirements identified for individual emission units.
- (2) The Department has determined that the requirements in Table 103.B as identified in the permit application are not

PART 1 B General Conditions

applicable to this source, or they do not impose any conditions in this permit. (3) This permit shield does not extend to administrative amendments (Subsection A of 20.2.70.404 NMAC), to minor permit modifications (Subsection B of 20.2.70.404 NMAC), to changes made under Section 502(b)(10), changes under Paragraph 1 of subsection H of 20.2.70.302 of the Federal Act, or to permit terms for which notice has been given to reopen or revoke all or part under 20.2.70.405 and 20.2.70.302J(6). (4) This permit shall, for purposes of the permit shield, identify any requirement specifically identified in the permit application or significant permit modification that the department has determined is not applicable to the source, and state the basis for any such determination. (20.2.70.302.A.1.f NMAC) C. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollutant control practices for minimizing emissions. (20.2.7.109 NMAC). The establishment of allowable malfunction emission limits does not supersede this requirement.			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B102 <u>Authority</u> A. This permit is issued pursuant to the federal Clean Air Act ("Federal Act"), the New Mexico Air Quality Control Act ("State Act") and regulations adopted pursuant to the State and Federal Acts, including Title 20, New Mexico Administrative Code, Chapter 2, Part 70 (20.2.70 NMAC) - Operating Permits. B. This permit authorizes the operation of this facility. This permit is valid only for the named permittee, owner, and operator. A permit modification is required to change any of those entities. C. The Department specifies with this permit, terms and conditions upon the operation of this facility to assure compliance with all applicable requirements, as defined in 20.2.70 NMAC at the time this permit is issued. (20.2.70.302.A.1 NMAC) D. Pursuant to the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2, all terms and conditions in this permit, including any provisions designed to limit this facility's potential to emit, are enforceable by the Department. All terms and conditions are enforceable by the Administrator of the United States Environmental Protection Agency ("EPA") and citizens under the Federal Act, unless the term or condition is specifically designated in this permit as not being enforceable under the Federal Act. (20.2.70.302.A.5 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below

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E. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the Modification and Exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).			
REMARKS:			
B103 <u>Annual Fee</u> The permittee shall pay Title V fees to the Department consistent with the fee schedule in 20.2.71 NMAC - Operating Permit Emission Fees. The fees will be assessed and invoiced separately from this permit. (20.2.70.302.A.1.e NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
REMARKS:			
B104 <u>Appeal Procedures</u> (20.2.70.403.A NMAC) A. Any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for a hearing before the Environmental Improvement Board ("board"). The petition shall be made in writing to the board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered, and attach a copy of the permitting action for which review is sought. Unless a timely request for a hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to: Secretary, New Mexico Environmental Improvement Board 1190 St. Francis Drive, Runnels Bldg. Rm N2153 Santa Fe, New Mexico 87502	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
REMARKS:			

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B105 Submittal of Reports and Certifications	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to Stacktest.AQB@state.nm.us or as directed by the Department. B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC) C. Compliance Certification Reports, Semi-Annual monitoring reports, compliance schedule progress reports, and any other compliance status information required by this permit shall be certified by the responsible official and submitted to the mailing address below, or as directed by the Department: Manager, Compliance and Enforcement Section New Mexico Environment Department Air Quality Bureau 525 Camino de los Marquez, Suite 1 Santa Fe, NM 87505-1816 D. Compliance Certification Reports shall also be submitted to the Administrator at the address below (20.2.70.302.E.3 NMAC): Chief, Air Enforcement Section US EPA Region-6, 6EN-AA 1445 Ross Avenue, Suite 1200 Dallas, TX 75202-2733			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			

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B106 <u>NSPS and/or MACT Startup, Shutdown, and Malfunction Operations</u>	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c). B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart. (20.2.70.302.A.1 and A.4 NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B107 <u>Startup, Shutdown, and Maintenance Operations</u>	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (20.2.7.14.A NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			

PART 1 B General Conditions

B108 General Monitoring Requirements (20.2.70. 302.A and C NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. These requirements do not supersede or relax requirements of federal regulations. B. The following monitoring and/or testing requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer. C. If the emission unit is shutdown at the time when periodic monitoring is due to be accomplished, the permittee is not required to restart the unit for the sole purpose of performing the monitoring. Using electronic or written mail, the permittee shall notify the Department's Enforcement Section of a delay in emission tests prior to the deadline for accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish the monitoring. D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke monitoring period exemptions at B108.D(2), hours of operation shall be monitored and recorded. (1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period. (2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods. (3) If invoking the monitoring period exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the			

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monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during the five year term of this permit.

- E. The permittee is not required to report a deviation for any monitoring or testing in a Specific Condition if the deviation was authorized in this General Condition B108.

- F. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.

- G. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.

- H. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance. All monitoring periods, unless stated otherwise in the specific permit condition or federal requirement, shall commence at the beginning of the 12 month reporting period as defined at condition A109.B.

REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

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B109 <u>General Recordkeeping Requirements</u> (20.2.70.302.D.1 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any applicable requirements that become effective during the term of this permit. The minimum information to be included in these records is (20.2.70.302.D.1 NMAC): (1) Records required for testing and sampling: (a) equipment identification (include make, model and serial number for all tested equipment and emission controls); (b) date(s) and time(s) of sampling or measurements; (c) date(s) analyses were performed; (d) the company or entity that performed the analyses; (e) analytical or test methods used; (f) results of analyses or tests; and (g) operating conditions existing at the time of sampling or measurement. (2) Records required for equipment inspections and/or maintenance required by this permit: (a) equipment identification number (including make, model and serial number) (b) date(s) and time(s) of inspection, maintenance, and/or repair (c) date(s) any subsequent analyses were performed (if applicable) (d) name of the person or qualified entity conducting the inspection, maintenance, and/or repair (e) copy of the equipment manufacturer's or the owner or operator's maintenance or repair recommendations (if required to demonstrate compliance with a permit condition) (f) description of maintenance or repair activities conducted (g) all results of any required parameter readings (h) a description of the physical condition of the equipment as found during any required inspection (i) results of required equipment inspections including a description of any condition which required			

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adjustment to bring the equipment back into compliance and a description of the required adjustments B. The permittee shall keep records of all monitoring data, equipment calibration, maintenance, and inspections, Data Acquisition and Handling System (DAHS) if used, reports, and other supporting information required by this permit for at least five (5) years from the time the data was gathered or the reports written. Each record shall clearly identify the emissions unit and/or monitoring equipment, and the date the data was gathered. (20.2.70.302.D.2 NMAC) C. If the permittee has applied and received approval for an alternative operating scenario, then the permittee shall maintain a log at the facility, which documents, contemporaneously with any change from one operating scenario to another, the scenario under which the facility is operating. (20.2.70.302.A.3 NMAC) D. The permittee shall keep a record describing off permit changes made at this source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes. (20.2.70.302.I.2 NMAC) E. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine and predictable emissions during startup, shutdown, and scheduled maintenance (SSM): (1) The owner or operator of a source subject to a permit, shall establish and implement a plan to minimize emissions during routine or predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC - Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. (20.2.7.14.A NMAC) The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC. (2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. (3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction			
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events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.

- (4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

B110 General Reporting Requirements (20.2.70.302.E NMAC)

- A. Reports of required monitoring activities for this facility shall be submitted to the Department on the schedule in section A109. Monitoring and recordkeeping requirements that are not required by a NSPS or MACT shall be maintained on-site or (for unmanned sites) at the nearest company office, and summarized in the semi-annual reports, unless alternative reporting requirements are specified in the equipment specific requirements section of this permit.
- B. Reports shall clearly identify the subject equipment showing the emission unit ID number according to this operating permit. In addition, all instances of deviations from permit requirements, including those that occur during emergencies, shall be clearly identified in the reports required by section A109. (20.2.70.302.E.1 NMAC)
- C. The permittee shall submit reports of all deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. These reports shall be submitted as follows:
- (1) Deviations resulting in excess emissions as defined in 20.2.7.7 NMAC (including those classified as emergencies as defined in section B114.A) shall be reported in accordance with the timelines specified by 20.2.7.110 NMAC and in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC)
 - (2) All other deviations shall be reported in the semi-annual reports required in section A109. (20.2.70.302.E.2

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NMAC). D. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC. E. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format. F. At such time as new units are installed as authorized by the applicable NSR Permit, the permittee shall fulfill the notification requirements in the NSR permit. G. Periodic Emissions Test Reporting: The permittee shall report semi-annually a summary of the test results. H. The permittee shall submit an emissions inventory for this facility annually. The emissions inventory shall be submitted by the later of April 1 or within 90 days after the Department makes such request. (20.2.73 NMAC and 20.2.70.302.A.1 NMAC) (1) The facility emits, or has the potential to emit, 5 tons per year or more of lead or lead compounds, or 100 tons per year or more of PM10, PM2.5, sulfur oxides, nitrogen oxides, carbon monoxide, or volatile organic compounds. (2) The facility is defined as a major source of hazardous air pollutants under 20.2.70 NMAC (Operating Permits). (3) The facility is located in an ozone nonattainment area and which emits, or has the potential to emit, 25 tons per year or more of nitrogen oxides or volatile organic compounds. (4) Upon request by the department. (5) The permittee shall submit the emissions inventory report by April 1 of each year, unless a different deadline is specified by the current operating permit. I. Emissions trading within a facility (20.2.70.302.H.2 NMAC) (1) For each such change, the permittee shall provide written notification to the department and the administrator at least seven (7) days in advance of the proposed changes. Such notification shall state when the change will occur and shall describe the changes in emissions that will result and how these increases and decreases in emissions will comply with the terms and conditions of the permit. (2) The permittee and department shall attach each such notice to their copy of the relevant permit.			
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PART 1 B General Conditions

REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

B111 General Testing Requirements**A. Compliance Tests**

- (1) Compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. (20.2.72 NMAC Sections 210.C and 213)
- (2) Compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.
- (3) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Department approval, be determined using the arithmetic mean of the results of the two other runs.
- (4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate, subject to the approval of the Department.
- (5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.
- (6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

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B. EPA Reference Method Tests (1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of this permit, shall be conducted in accordance with the requirements of 40 CFR 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by 40 CFR 60, Appendix A: (a) Methods 1 through 4 for stack gas flowrate (b) Method 5 for TSP (c) Method 6C and 19 for SO₂ (d) Method 7E for NO_x (test results shall be expressed as nitrogen dioxide (NO₂) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO₂ is equivalent to 1.194 x 10⁻⁷ lb/SCF) (e) Method 9 for opacity (f) Method 10 for CO (g) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter). (h) Method 7E or 20 for Turbines per 60.335 or 60.4400 (i) Method 29 for Metals (j) Method 201A for filterable PM₁₀ and PM_{2.5} (k) Method 202 for condensable PM (l) Method 320 for organic Hazardous Air Pollutants (HAPs) (m) Method 25A for VOC reduction efficiency (n) Method 30B for Mercury (2) Alternative test method(s) may be used if the Department approves the change. C. Periodic Monitoring and Portable Analyzer Requirements (1) Periodic emissions tests (periodic monitoring) may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of ASTM D 6522-00. However, if a facility has met a previously approved			
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Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced.

- (2) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 20 minutes.

Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit.

- (3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.F.
- (4) During emissions tests, pollutant and diluent concentration shall be monitored and recorded. Fuel flow rate shall be monitored and recorded if stack gas flow rate is determined utilizing Method 19. This information shall be included with the test report furnished to the Department.
- (5) Stack gas flow rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) determined by a dedicated fuel flow meter and fuel heating value (Btu/scf) determined from a fuel sample obtained preferably during the day of the test, but no earlier than three months prior to the test date. Alternatively, stack gas flow rate may be determined by using EPA Methods 1-4.

D. Test Procedures:

- (1) The permittee shall notify the Department's Program Manager, Compliance and Enforcement Section at least thirty (30) days before the test to afford a representative of the Department an opportunity to be present at the test. (40CFR 60.8(d))
- (2) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.
- (3) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing.
- (4) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment.
- (5) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Method 1 or ASTM D 6522-00 as applicable.
- (6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed
- (7) Unless otherwise indicated by Specific Conditions or regulatory requirements, test reports shall be submitted to the Department no later than 30 days after completion of the test.

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REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

B112 Compliance

☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
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| <p>A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)</p> | | |
| <p>B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.70.302.G.3 NMAC)</p> | | |
| <p>C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit. (20.2.70.302.A.1 and G.3 NMAC)</p> | | |
| <p>D. The permittee shall submit compliance certification reports certifying the compliance status of this facility with respect to all permit terms and conditions, including applicable requirements. These reports shall be made on the pre-populated Compliance Certification Report Form that is provided to the permittee by the Department, and shall be submitted to the Department and to EPA at least every 12 months. For the most current form, please contact the Compliance Reports Group at email:reportsgroup.aqb@state.nm.us. For additional reporting guidance see https://www.env.nm.gov/aqb/enforce_compliance/SubmittalForms.htm. (20.2.70.302.E.3 NMAC)</p> | | |
| <p>E. The permittee shall allow representatives of the Department, upon presentation of credentials and other documents</p> | | |

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as may be required by law, to do the following (20.2.70.302.G.1 NMAC):

- (1) enter the permittee's premises where a source or emission unit is located, or where records that are required by this permit to be maintained are kept;
- (2) have access to and copy, at reasonable times, any records that are required by this permit to be maintained;
- (3) inspect any facilities, equipment (including monitoring and air pollution control equipment), work practices or operations regulated or required under this permit; and
- (4) sample or monitor any substances or parameters for the purpose of assuring compliance with this permit or applicable requirements or as otherwise authorized by the Federal Act.

REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

B113 Permit Reopening and Revocation

- A. This permit will be reopened and revised when any one of the following conditions occurs, and may be revoked and reissued when A(3) or A(4) occurs. (20.2.70.405.A.1 NMAC)

- (1) Additional applicable requirements under the Federal Act become applicable to a major source three (3) or more years before the expiration date of this permit. If the effective date of the requirement is later than the expiration date of this permit, then the permit is not required to be reopened unless the original permit or any of its terms and conditions has been extended due to the Department's failure to take timely action on a request by the permittee to renew this permit.
- (2) Additional requirements, including excess emissions requirements, become applicable to this source under Title IV of the Federal Act (the acid rain program). Upon approval by the Administrator, excess emissions offset plans will be incorporated into this permit.
- (3) The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the terms and conditions of the permit.
- (4) The Department or the Administrator determines that the permit must be revised or revoked and reissued to assure compliance with an applicable requirement.

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B. Proceedings to reopen or revoke this permit shall affect only those parts of this permit for which cause to reopen or revoke exists. Emissions units for which permit conditions have been revoked shall not be operated until new permit conditions have been issued for them. (20.2.70.405.A.2 NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B114 <u>Emergencies</u> (20.2.70.304 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the permittee, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, or careless or improper operation.			
B. An emergency constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations contained in this permit if the permittee has demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:			
(1) An emergency occurred and that the permittee can identify the cause(s) of the emergency;			
(2) This facility was at the time being properly operated;			
(3) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; and			
(4) The permittee submitted notice of the emergency to the Department within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirement of 20.2.70.302.E.2 NMAC. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.			
C. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.			

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D. This provision is in addition to any emergency or upset provision contained in any applicable requirement.			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B115 <u>Stratospheric Ozone</u> (20.2.70.302.A.1 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. If this facility is subject to 40 CFR 82, Subpart F, the permittee shall comply with the following standards for recycling and emissions reductions: (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices, except for motor vehicle air conditioners (MVAC) and MVAC-like appliances. (40 CFR 82.156) (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment. (40 CFR 82.158) (3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program. (40 CFR 82.161)			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B116 <u>Acid Rain Sources</u> (20.2.70.302.A.9 NMAC)	☐ Yes Explain Below	☐ No Explain Below	☒ N/A Explain Below
A. If this facility is subject to the federal acid rain program under 40 CFR 72, this section applies.			
B. Where an applicable requirement of the Federal Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Federal Act, both provisions are incorporated into this permit and are federally enforceable.			
C. Emissions exceeding any allowances held by the permittee under Title IV of the Federal Act or the regulations promulgated thereunder are prohibited.			

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D. No modification of this permit is required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit modification under any other applicable requirement. E. The permittee may not use allowances as a defense to noncompliance with any other applicable requirement. F. No limit is placed on the number of allowances held by the acid rain source. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Federal Act. G. The acid rain permit is an enclosure of this operating permit.			
REMARKS:			
B117 <u>Risk Management Plan</u> (20.2.70.302.A.1 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. If this facility is subject to the federal risk management program under 40 CFR 68, this section applies. B. The owner or operator shall certify annually that they have developed and implemented a RMP and are in compliance with 40 CFR 68. C. If the owner or operator of the facility has not developed and submitted a risk management plan according to 40 CFR 68.150, the owner or operator shall provide a compliance schedule for the development and implementation of the plan. The plan shall describe, in detail, procedures for assessing the accidental release hazard, preventing accidental releases, and developing an emergency response plan to an accidental release. The plan shall be submitted in a method and format to a central point as specified by EPA prior to the date specified in 40 CFR 68.150.b.			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			

Part 2

ACC Deviation Summary Report for Permit P051-R2 & R2M1

1. Are there any deviations identified in Part 1, Column 5. If NO, no further information is required on Part 2 of this form. If YES, answer question 2 below.	☒ Yes ☐ No
2. Have all deviations identified in Part 1, Column 5 been reported to the NMED as required by 20.2.7 NMAC or in a Semi-Annual Monitoring Report (20.2.70.302.E.1 NMAC)? If Yes, no further information is required on Part 2 of this form. If No, answer question 3 below and enter the required information in the Deviation Summary Table for each deviation not yet reported to the NMED.	☐ Yes ☒ No
3. Did any of the deviations result in excess emissions? For excess emissions deviations that have not previously been reported per requirements of 20.2.7 NMAC, a completed Excess Emission Form for each deviation must be attached to this report.	☒ Yes ☐ No

Deviation Summary Table for deviations not yet reported.

No.	Applicable Requirement (Include Rule Citation)	Emission Unit ID(s)	Cause of Deviation	Corrective Action Taken
1	A106.C, A107.C, A107.F Allowable SSM and Malfunction Emissions.	All Flares	Flare monitoring implemented to meet NSPS Ja requirements has resulted in data that is being evaluated with respect to potential exceedences of permit limits. Thus, any excess emissions have not been reported to date.	Navajo is working on evaluating the data and will address any reporting of excess emissions that may be necessary with the NMED.
2	A206.B 40 CFR 63.11(b)	FL-0400 FL-0401 FL-0402 FL-0404	Flare gas below 300 btu/scf NHV due to hydrogen venting as a result of process upset and hydrogen imbalance.	Increase H2 consumption and reduce H2 sent to the flare.
3	A203.E	Tanks	The draft results of a recent third-party environmental compliance audit indicate potential exceedances of the Title V permit sour water throughput limit in 2016 (and 2015) and the distillate throughput in 2016. (The refinery's most recent NSR permit, PSD-NM-0195-M37, increases these limits.)	This is currently under review.

PART 1 B General Conditions

4	A112.A	SWS-7	Ammonia emissions from a vent on the knockout pot (KO-482) associated with SWS-7 may not be less $\leq$ 25 ppmv. (The underlying regulatory provision, 20.2.37 NMAC, has been repealed effective September 12, 2016.)	This is currently under review.
5	A109.D	All Flares SRU2 SRU3	The draft results of a recent third-party environmental compliance audit indicate that incident reports were not submitted within 45 days following the end of one TGI and five HC Flaring Incidents. The draft results indicate that a follow-up report was not submitted within 30 days after completion of corrective action for one HC Flaring Incident.	This is currently under review.

Deviation Summary Table (cont.)

	Deviation Started		Deviation Ended					Did you attach an excess emission form?
No.	Date	Time	Date	Time	Pollutant	Monitoring Method	Amount of Emissions	
1	9/1/2016	00:00	8/31/2017	23:59	NOx,CO,VOC, & SO2	CEMS/Pi Data	Unknown	☒ Yes ☐ No
2	N/A	N/A	N/A	N/A	N/A	CEMS/Pi Data (See Note 2 on attached additional deviation pages)	N/A	☐ Yes ☒ No
3	UNDER REVIEW				N/A	Pi Data	Under Review	☐ Yes ☒ No
4	UNDER REVIEW				NH3	N/A	Under Review	☐ Yes ☒ No
5	N/A	N/A	N/A	N/A	Various Pollutants	CEMS/Pi Data, Document Review	N/A	☐ Yes ☒ No

Deviation Summary Table for deviations not yet reported. (Cont.)

No.	Applicable Requirement (Include Rule Citation)	Emission Unit ID(s)	Cause of Deviation	Corrective Action Taken
6	A106 and A107	All Sources	Several excess emission reports required under condition A106 and A107 were not submitted within the time required under 20.2.7 NMAC.	Navajo tracks emission events on a daily basis and has improved training to help ensure emission events are reported to Environmental and to agencies in a timely manner.

Deviation Summary Table (cont.)

	Deviation Started		Deviation Ended					Did you attach an excess emission form?
No.	Date	Time	Date	Time	Pollutant	Monitoring Method	Amount of Emissions	
6	N/A	N/A	N/A	N/A	Various	Pi Data, Calculations	N/A	No

Note 1

Consistent with prior reporting and previous discussions with NMED, this table does not include deviations previously reported to NMED, including in reports under the NSPS, MACT, or other programs.

Note 2

Refer to attached Table of Events Summary.

Table of Events
Summary (BTU)

	Deviation Started Date/Time	Deviation Ended Date/Time	Pollutant	Monitoring Method	Amount of Emissions	Excess Emission Form?
1	09/14/2016 16:00	09/15/2017 08:00	N/A	Pi Data	N/A	No
	10/11/2016 07:00	10/11/2016 11:00	N/A	Pi Data	N/A	No
	02/27/2017 18:00	03/01/2017 21:00	N/A	Pi Data	N/A	No
	03/10/2017 14:00	03/10/2017 15:00	N/A	Pi Data	N/A	No
	03/10/2017 17:00	03/10/2017 18:00	N/A	Pi Data	N/A	No
	08/09/2017 13:00	08/09/2017 15:00	N/A	Pi Data	N/A	No
2	01/06/2017 11:00	01/06/2017 15:00	N/A	Pi Data	N/A	No
	01/07/2017 06:00	01/06/2017 10:00	N/A	Pi Data	N/A	No
	02/20/2017 19:00	02/20/2017 21:00	N/A	Pi Data	N/A	No
	07/18/2017 12:00	07/19/2017 12:00	N/A	Pi Data	N/A	No
3	10/04/2016 22:00	10/04/2016 23:00	N/A	Pi Data	N/A	No
	10/05/2016 01:00	10/07/2016 00:00	N/A	Pi Data	N/A	No
	11/07/2016 16:00	11/07/2016 19:00	N/A	Pi Data	N/A	No
	02/21/2017 14:00	02/22/2017 12:00	N/A	Pi Data	N/A	No
	02/22/2017 23:00	03/25/2017 02:00	N/A	Pi Data	N/A	No
4	12/27/2016 06:00	12/27/2016 07:00	N/A	Pi Data	N/A	No
	02/10/2017 16:00	02/11/2017 14:00	N/A	Pi Data	N/A	No
	02/26/2017 20:00	02/26/2017 23:00	N/A	Pi Data	N/A	No
	02/27/2017 03:00	02/27/2017 17:00	N/A	Pi Data	N/A	No
	02/28/2017 01:00	02/28/2017 02:00	N/A	Pi Data	N/A	No
	03/02/2017 19:00	03/03/2017 00:00	N/A	Pi Data	N/A	No
	03/03/2017 22:00	03/04/2017 00:00	N/A	Pi Data	N/A	No
	03/04/2017 12:00	03/04/2017 14:00	N/A	Pi Data	N/A	No
	03/04/2017 17:00	03/04/2017 21:00	N/A	Pi Data	N/A	No
	03/05/2017 09:00	03/07/2017 03:00	N/A	Pi Data	N/A	No
	03/08/2017 11:00	03/08/2017 18:00	N/A	Pi Data	N/A	No
	03/09/2017 12:00	03/09/2017 21:00	N/A	Pi Data	N/A	No
	03/10/2017 07:00	03/10/2017 10:00	N/A	Pi Data	N/A	No

Table of Events
Summary (BTU)

	Deviation Started Date/Time	Deviation Ended Date/Time	Pollutant	Monitoring Method	Amount of Emissions	Excess Emission Form?
	03/12/2017 07:00	03/12/2017 08:00	N/A	Pi Data	N/A	No
	03/14/2017 00:00	03/14/2017 02:00	N/A	Pi Data	N/A	No
	03/14/2017 04:00	03/14/2017 06:00	N/A	Pi Data	N/A	No
	03/14/2017 12:00	03/14/2017 21:00	N/A	Pi Data	N/A	No
	08/18/2017 19:00	08/19/2017 08:00	N/A	Pi Data	N/A	No
	08/19/2017 15:00	08/19/2017 22:00	N/A	Pi Data	N/A	No
	08/23/2017 12:00	08/23/2017 14:00	N/A	Pi Data	N/A	No
5	10/20/2016 11:00	10/20/2016 12:00	N/A	Pi Data	N/A	No
	02/22/2017 04:00	02/22/2017 05:00	N/A	Pi Data	N/A	No
	02/22/2017 13:00	02/22/2017 14:00	N/A	Pi Data	N/A	No
	02/22/2017 21:00	03/13/2017 11:00	N/A	Pi Data	N/A	No
	04/10/2017 16:00	04/10/2017 17:00	N/A	Pi Data	N/A	No
	06/01/2017 09:00	06/01/2017 10:00	N/A	Pi Data	N/A	No
	07/07/2017 09:00	07/07/2017 10:00	N/A	Pi Data	N/A	No
	07/07/2017 12:00	07/07/2017 13:00	N/A	Pi Data	N/A	No



New Mexico Environment Department - Air Quality Bureau
 Compliance and Enforcement Section
 525 Camino de Los Marquez - Suite 1 - Santa Fe, NM 87505
 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-01	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0400
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	North Plant Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490 Extn.:
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:	

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
- ☒ 20.2.70 NMAC (Title V)
- ☐ 40 CFR 60 (NSPS)
- ☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
- ☐ Startup
- ☐ Shutdown
- ☐ Emergency
- ☐ Schedule Maintenance
- ☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



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 Compliance and Enforcement Section
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 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-02	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0401
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	South Plant Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
☐ Startup
☐ Shutdown
☐ Emergency
☐ Schedule Maintenance
☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

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Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-03	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0402
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	FCC Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:		

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
- ☒ 20.2.70 NMAC (Title V)
- ☐ 40 CFR 60 (NSPS)
- ☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
- ☐ Startup
- ☐ Shutdown
- ☐ Emergency
- ☐ Schedule Maintenance
- ☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

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Pollutant	Duration of Event (hh:mm)	Emission Limits or Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-04	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0403
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	Alky Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:		

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
- ☒ 20.2.70 NMAC (Title V)
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- ☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

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- ☐ Startup
- ☐ Shutdown
- ☐ Emergency
- ☐ Schedule Maintenance
- ☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

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☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
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 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-05	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0404
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	GOHT Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:		

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
☐ Startup
☐ Shutdown
☐ Emergency
☐ Schedule Maintenance
☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

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Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

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☐ Operating Log(s)
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Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



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 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-06	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	Flare Malf Cap
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	Upset and Malfunction Emissions
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:		

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
- ☒ 20.2.70 NMAC (Title V)
- ☐ 40 CFR 60 (NSPS)
- ☐ 40 CFR 63 (MACT)

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- ☐ Startup
- ☐ Shutdown
- ☐ Emergency
- ☐ Schedule Maintenance
- ☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

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Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



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9.27.18

New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
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Air Quality Bureau



Version 05.02.13

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REPORTING SUBMITTAL FORM

TV Acc Aug2018

NMED USE ONLY	
Staff	
Admin	me 10.1.18

PLEASE NOTE: ® - Indicates required field

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION					
A. ® Company Name: HollyFrontier Navajo Refining LLC			D. ® Facility Name: HollyFrontier Navajo Refining LLC		
B.1 ® Company Address: PO Box 159			E.1 ® Facility Address: 501 E. Main St.		
B.2 ® City: Artesia	B.3 ® State: NM	B.4 ® Zip: 88211-0159 ¹	E.2 ® City: Artesia	E.3 ® State: NM	E.4 ® Zip: 88210
C.1 ® Company Environmental Contact: Scott Denton	C.2 ® Title: Environmental Manager		F.1 ® Facility Contact: Scott Denton	F.2 ® Title: Environmental Manager	
C.3 ® Phone Number: 575-746-5487	C.4 ® Fax Number: 575-746-5451		F.3 ® Phone Number: 575-746-5487	F.4 ® Fax Number: 575-746-5451	
C.5 ® Email Address: Scott.Denton@hollyfrontier.com			F.5 ® Email Address: Scott.Denton@hollyfrontier.com		
G. Responsible Official: (Title V only): Robert K. O'Brien	H. Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC		I. Phone Number: 575-748-3311	J. Fax Number: 575-746-5451	
K. ® AI Number: 198	L. Title V Permit Number: P051-R2M1	M. Title V Permit Issue Date: 01/22/2016	N. NSR Permit Number: PSD-NM-0195-M37	O. NSR Permit Issue Date: 08/12/2016	
P. Reporting Period: From: 09/01/2017 To: 08/31/2018					

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A. ☒	Title V Annual Compliance Certification	Permit Condition(s): A109	Description: Annual Compliance Certification	
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ or NOI No. ☐	Condition(s):	Description:
G. ☐	Requirement of an Enforcement Action	NOV No. ☐ or SFO No. ☐ or CD No. ☐ or Other ☐	Section(s):	Description:

SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Robert K. O'Brien</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: 		® Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	® Date: 09/27/2018
		® Responsible Official for Title V? ☒ Yes ☐ No	

Reviewed By: _____

Date Reviewed: _____



**New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375**



Version 05.02.13

NMED USE ONLY	
TEMPO	

REPORTING SUBMITTAL FORM

NMED USE ONLY	
Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION									
A. ® Company Name: HollyFrontier Navajo Refining LLC					D. ® Facility Name: HollyFrontier Navajo Refining LLC				
B.1 ® Company Address: PO Box 159					E.1 ® Facility Address: 501 E. Main St.				
B.2 ® City: Artesia		B.3 ® State: NM	B.4 ® Zip: 88211-0159 ^L		E.2 ® City: Artesia		E.3 ® State: NM	E.4 ® Zip: 88210	
C.1 ® Company Environmental Contact: Scott Denton		C.2 ® Title: Environmental Manager			F.1 ® Facility Contact: Scott Denton		F.2 ® Title: Environmental Manager		
C.3 ® Phone Number: 575-746-5487		C.4 ® Fax Number: 575-746-5451			F.3 ® Phone Number: 575-746-5487		F.4 ® Fax Number: 575-746-5451		
C.5 ® Email Address: Scott.Denton@hollyfrontier.com					F.5 ® Email Address: Scott.Denton@hollyfrontier.com				
G. Responsible Official: (Title V only): Robert K. O'Brien			H. Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC		I. Phone Number: 575-748-3311		J. Fax Number: 575-746-5451		
K. ® AI Number: 198		L. Title V Permit Number: P051-R2M1		M. Title V Permit Issue Date: 01/22/2016		N. NSR Permit Number: PSD-NM-0195-M37		O. NSR Permit Issue Date: 08/12/2016	
P. Reporting Period: From: 09/01/2017 To: 08/31/2018									

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A. ☒	Title V Annual Compliance Certification	Permit Condition(s): A109	Description: Annual Compliance Certification	
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ : or NOI No. ☐ :	Condition(s):	Description:
G. ☐	Requirement of an Enforcement Action	NOV No. ☐ : or SFO No. ☐ : or CD No. ☐ : or Other ☐ :	Section(s):	Description:

SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Robert K. O'Brien</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: 		® Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	® Date: 09/27/2018
		® Responsible Official for Title V? ☒ Yes ☐ No	

Reviewed By: _____

Date Reviewed: _____



September 27, 2018

Enforcement Manager
Air Quality Bureau - Enforcement
NM Environment Department
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-1816

Certified Mail/Return Receipt
7015 0640 0006 6577 6992

**Re: HollyFrontier Navajo Refining LLC
Artesia, NM Refinery
Title V Operating Permits P051-R2M1
Annual Compliance Certification
Agency Interest No. 198
Reporting Period September 1, 2016 through August 31, 2017**

On behalf of HollyFrontier Navajo Refining LLC (Navajo), I am submitting Navajo's annual compliance certification (ACC) for the Artesia, NM Refinery.

Title V Operating Permit P051-R2M1 Reporting Period: September 1, 2017 through August 31, 2018

Consistent with the initial compliance certification, items identified during work practices, such as fugitive component monitoring inspections, that are corrected or repaired within the regulatory timeframe and that are properly documented, do not comprise exceptions or deviations.

Please feel free to contact me at (575) 746-5487 or Ray Smalts at (575) 746-5490 if you have any questions or should require any further information.

Sincerely,

Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC
P.O. Box 159
Artesia, New Mexico 88211-0159
Phone: (575) 746-5487
E-mail: Scott.Denton@hollyfrontier.com

Enclosure

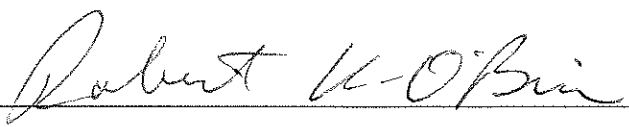
cc: US EPA (w/enc): Chief, Air Permits, U.S. EPA Region 6 (6PD-R), 1445 Ross avenue, Suite 1200, Dallas, TX 75202-2733

Navajo: R. O'Brien, W. Romine, G. Combs, R. Smalts, S. Hammond
Environmental File: 2.10 Annual Compliance Certifications (Title V)\Artesia Certification\2018 Artesia Certification\2018-09-27 Artesia Title V Annual Compliance Certification.pdf

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
(575) 748-3311 • <http://www.hollyfrontier.com>

Title V Report Certification Form

I. Report Type		
☒ Annual Compliance Certification ☐ Semi-Annual Monitoring Report ☐ Other Specify:		
II. Identifying Information		
Facility Name: Artesia Refinery		
Facility Address: PO Box 159, Artesia	State: NM	Zip: 88211-0159
Responsible Official (RO): Robert K. O'Brien	Phone: 575-748-3311	Fax: 575-746-5421
RO Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	RO e-mail:	
Permit No.: P051-R2M1	Date Permit Issued: 01/22/2016	
Report Due Date (as required by the permit): 09/30/2018	Permit AI number: 0198	
Time period covered by this Report: From: 09/01/2017		To: 08/31/2018

III. Certification of Truth, Accuracy, and Completeness	
I am the Responsible Official indicated above. I, <u>Robert K. O'Brien</u>, certify that I meet the requirements of 20.2.70.7.AD NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete.	
Signature <u></u>	Date: <u>09/27/2018</u>

Title V Annual Compliance Certification for Permit P051-R2 & R2M1

Title (TV) Permit Administration Amendment

On January 22, 2016 NMED AQB issued an Administrative Amendment to Operating Permit P052-R2.

The Administrative Amendment P051-R2M1 corrected the following:

- **The Department acknowledges the Owner/Permittee name change from Navajo Refining Company, L.L.C. to HollyFrontier Navajo Refining LLC.**

For this is an Administrative Amendment (P051-R2M1), the facility can use one Annual Compliance Certification (ACC) Form which will cover both TV Permits.

Although the facility is only required to submit one ACC Form, the facility shall submit **two (2)** separate TV Report Certification Forms. Each form shall list the corresponding TV Permit number, TV Permit Issue Date and Reporting Period.

Please note that this is a one-time authorization. Submittal forms for future Administrative Revisions will be evaluated on a case by case basis.

This form can also be used for future submittal that cover only the **P051-R2M1** permit.

Part 1 - Permit Requirements Certification Table

Annual Compliance Certification Data for Title V Permit No. P051-R2 & R2M1				
1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
FACILITY SPECIFIC REQUIREMENTS A101 Permit Duration (expiration) A. The term of this permit is five (5) years. It will expire five years from the date of issuance. Application for renewal of this permit is due twelve (12) months prior to the date of expiration. (20.2.70.300.B.2 and 302.B NMAC)	Navajo submitted the application for renewal on September 11, 2013.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A101 Permit Duration (expiration) B. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate beyond the expiration date, provided that a timely and complete renewal application is submitted no later than twelve (12) months prior to the expiration date. (20.2.70.400.D NMAC)	Navajo submitted the application for renewal on September 11, 2013.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A102 Facility: Description B. This facility is located in the city limits of Artesia, NM.	This is the location of Navajo refinery.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A103 Facility: Applicable Regulations A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A	This permit condition provides a list of the applicable requirements that are addressed in detail in other permit conditions but does not impose any specific standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4,	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).			

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
NSR Permit No: PSD 0195-M35 (Per 20.2.72 NMAC)	X	Entire Facility
20.2.1 NMAC General Provisions	X	Entire Facility
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.33 NMAC Gas Burning Equipment -- Nitrogen Dioxide	X	Affected sources in <u>Table 103.E</u>
20.2.36 NMAC Petroleum Refinery - Sulfur	X	Entire Facility
20.2.37 NMAC Petroleum Processing Facilities	X	Entire Facility
20.2.38 NMAC Hydrocarbon Storage Facilities	X	Entire Facility
20.2.70 NMAC Operating Permits	X	Entire Facility
20.2.71 NMAC Operating Permit Emission Fees	X	Entire Facility
20.2.72 NMAC Construction Permit	X	Entire Facility
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	Entire Facility
20.2.74 NMAC Prevention of Significant Deterioration	X	Entire Facility
20.2.77 NMAC New Source Performance	X	Units subject to 40 CFR 60
20.2.78 NMAC Emission Standards for Hazardous Air Pollutants (HAPs)	X	Units subject to 40 CFR 61
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Units subject to 40 CFR 63
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility
40 CFR 60, Subpart A, General Provisions	X	See Tables <u>103.B</u> to <u>103.K</u>
40 CFR 60, Subpart Db "Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units"	X	See Tables <u>103.B</u> to <u>103.J</u>
40 CFR 60, Subpart Dc "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, Which Construction, Reconstruction, or Modification Commenced After June 9, 1989"	X	H-0464; H-3101
40 CFR 60, Subpart J, "Standards of Performance for Petroleum Refineries"	X	See Tables <u>103.B</u> to <u>103.J</u>
40 CFR 60, Subpart Ja, "Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007"	X	See Tables <u>103.B</u> to <u>103.J</u>

40 CFR 60, Subpart K, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978"	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"	X	See Tables <u>103.B</u> to 103.k
40 CFR 60, Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984"	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after January 4, 1983, and on or before November 7, 2006.	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after November 7, 2006.	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	X	See Tables <u>103.B</u> to 103.K
40 CFR 61, Subpart A, General Provisions	X	Entire Facility
40 CFR 61, Subpart FF, National Emission Standards for Benzene Waste Operations	X	Benzene Waste Operations
40 CFR 63, Subpart A, General Provisions	X	Entire Facility
40 CFR 63, Subpart Q, National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers	X	See Table <u>103.F</u>
40 CFR 63, Subpart CC	X	See Tables <u>103.B</u> to 103.K
40 CFR 63 Subpart DDDDD	X	See Tables <u>103.B</u> to 103.K
40 CFR 63 Subpart UUU, Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units	X	See Tables <u>103.B</u> to 103.KJ

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40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	X	See Tables 103.B to 103.KJ
40 CFR 68, (RMP), Section 112(r) Accidental Release	X	Entire Facility
Consent Decree CIV-01 1422LH Lodged 12/20/2001, Entered 3/5/2002	X	Entire Facility

Table 103.B Summary Applicability-Fugitives

Title V Permit Unit ID	Description	20.2.37	MACT CC	NSPS GGG	NSPS GGGa	NSPS QQQ	NESHAP J	NESHAP V	NAV-195-CC ¹
FUG-02-SP CRUDE	South Division Crude Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-05-KERO	Kerosene HDS Unit	NO	NO	NO	NO	YES	NO	NO	NO
FUG-06-NHDU	JP8 Hydrodesulfurization	NO	YES	NO	NO	YES	NO	NO	NO
FUG-07-N AMINE	Amine Unit-Treating/Regen.	YES	NO	YES	NO	YES	NO	NO	YES
FUG-07-SWS1	Sour Water Stripper	YES	NO	YES	NO	YES	NO	NO	NO
FUG-08-TRUCK RK	Loading Racks	NO	YES	NO	YES	YES	NO	NO	NO
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-10-FCC	FCC w/CVS	YES	YES	YES	NO	YES	NO	NO	NO
FUG-13-NHDU	Naphtha HDS Unit	YES	YES	YES	NO	YES	NO	NO	NO
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	NO	YES	NO	NO	YES	NO	NO	NO
FUG-20-ISOM	Powerformer/Penex Unit w/CVS	NO	YES	NO	NO	YES	NO	NO	NO
FUG-21-SP VACUUM	Flasher/Vacuum Unit	NO	NO	NO	YES	YES	NO	NO	NO
FUG-25-ROSE-2	ROSE Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-29-BLENDER/TK FARM	Light Oil Tankage	NO	YES	NO	YES	YES	NO	NO	NO
FUG-31-SRU3/TGTU3/TGB	SRU3 Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/CVS	YES	YES	YES	NO	YES	NO	NO	NO
FUG-34-HYDROCRACKER	WX Hydrocracker	YES	YES	NO	YES	YES	NO	NO	NO
FUG-35-SAT GAS	Saturates Gas Plant	NO	YES	NO	NO	YES	NO	NO	NO
FUG-41-PBC	PBC Unit	NO	NO	NO	NO	YES	NO	NO	NO
FUG-43-S ALKY	South Alky Unit (W-76)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	YES	NO	NO	YES	NO	NO	NO

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FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	YES	YES	NO	YES	NO	NO	NO	
FUG-63-H2 PLANT-1	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-64-H2 PLANT-2	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-70-CCR	CCR Reformer (w/in battery limits)	YES	YES	YES	NO	YES	NO	NO	NO	
FUG-73-SP UTIL	Utilities	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-80-WWTP CVS	Oil/Water Separator	YES	YES	YES	NO	YES	NO	NO	YES	
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-FUEL GAS	Fuel Gas Distribution System	NO	YES	NO	NO	YES	NO	NO	NO	
FUG-LPG	LPG Storage System	NO	NO	NO	NO	YES	NO	NO	YES	
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	NO	NO	NO	NO	YES	NO	NO	NO	
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/CVS	YES	NO	YES	NO	YES	NO	NO	YES	
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks.	NO	NO	NO	NO	YES	NO	NO	NO	

Table 103.C, Summary Applicability - Tanks

Tank No.	NSPS K	NSPS Ka	NSPS Kb	MACT CC Storage	MACT CC Wastewater	NESHAP FF	NSPS QQQ	20.2.37.205 NMAC	20.2.38.109 NMAC	20.2.38.110 NMAC	20.2.38.112 NMAC	20.2.38.113 NMAC	CA M
RW-4	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
RW-5	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	NO	NO
RW-6	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
T-0001	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0002	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0003	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0004	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
T-0011	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0012	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0013	NO	NO	NO	YES	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0026	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0028	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0031	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0040	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0041	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0042	NO	NO	NO	NO	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0045	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0046	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0049	NO	NO	NO	YES	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0055	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0056	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0057	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0059	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0061	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0063	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0064	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0065	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0071	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0072	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0073	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0074	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0075	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0076	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0078	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0079	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0081	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO

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T-0082	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0106	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0107	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0108	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0109	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0110	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0111	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0112	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0114	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0115	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0116	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0117	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0119	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0124	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0400	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0401	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0402	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0404	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0405	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0409	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0410	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0411	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0412	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0413	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0415	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0417	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0418	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0419	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0420	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0422	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0423	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0431	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0432	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0433	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0434	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0435	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0437	YES	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0438	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0439	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0446	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0447	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0448	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO

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T-0449	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0450	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0453	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0460	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0465	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0466	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0467	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0468	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0600	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0737	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	NO
T-0802	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	NO
T-0803	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0804	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0807	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0809	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0810	NO	NO	NO	NO	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0814	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0815	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0816	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0830	NO	NO	YES	NO	YES	YES	YES	YES	NO	NO	YES	NO	NO
T-0834	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0835	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0838	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0839	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0840	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0841	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0891	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0892	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1221	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1222	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1223	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1224	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-1225	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-1227	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
BioDiesel	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
Ethanol	NO	NO	YES	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO

Table 103.D, Summary Applicability

Unit ID	Description	MACT CC	20.2.37.205.C	MACT BBBB	MACT CCCCC	CAM
TL-4	Fuels Truck Loading Rack	YES	NO	NO	NO	NO
TL-7	CBO/LCO Truck Loading Rack	NO	NO	NO	NO	NO
RLO-8	Railcar Loading & Off-Loading Rack	NO	NO	NO	NO	NO

Table 103.E, Summary Applicability – Heaters and Boilers

Unit ID	Description	NSPS D	NSPS Db	NSPS Dc	NSPS J	NSPS Ja	MACT DDDDD	20.2.33.108 NMAC	20.2.36 NMAC	20.2.37 NMAC	CAM
B-0007	Boiler 7	NO	YES	NO	YES	NO	YES	YES	YES	YES	NO
B-0008	Boiler 8	NO	YES	NO	YES	NO	YES	YES	YES	YES	NO
B-0009	Boiler 9	NO	YES	NO	NO	Yes	YES	YES	YES	YES	NO
H-0009	Unit 13 Naphtha Splitter Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0011	Unit 21 Vacuum Unit Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0018	Unit 06 HDS Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0019	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0020	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0028	Unit 21 Heater H-28	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0030	Unit 06 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0040	Unit 13 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0303	Unit 05 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0312	Unit 10 FCC Feed Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0352	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0353	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0354	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0355	Unit 70 Stabilizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0362	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0363	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO

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H-0364	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0421	Unit 44 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0464	SRU Hot Oil Heater	NO	NO	YES	YES	NO	NO	NO	YES	YES	NO
H-0473	SRU1 and SRU2 Tail Gas Incinerator	NO	NO	NO	YES	NO	NO	NO	YES	YES	NO
H-0600	Unit 09 Depropanizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0601	Unit 33 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-2421	Unit 45 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-8801/ H-8802	Unit 63 Hydrogen Plant Reformer	NO	NO	NO	YES	NO	YES	YES	YES	YES	NO
H-3402	Unit 34 Hydrocracker Reboiler 1	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO
H-3403	Hydrocracker Reactor Charge Heater	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO
H-9851	Unit 64 Hydrogen Plant Reformer	NO	NO	NO	NO	YES	YES	YES	YES	YES	NO
H-2501	Unit 25 ROSE® Unit No.2 Hot Oil Heater	NO	YES	NO	NO	YES	YES	YES	YES	YES	NO
H-3101 (formerly SRU3- HOH)	SRU3 Hot Oil Heater	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO
SRU3-TGI	SRU3 Tail Gas Incinerator	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO

Table 103.F, Summary Applicability – Cooling Towers

Cooling Tower	Description	MACT Q	MACT CC	CAM
Y-0001	TCC Cooling Tower	YES	YES	NO
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	YES	YES	NO
Y-0008	North Alky Cooling Tower	YES	YES	NO
Y-0011	FCC & NP Cooling Tower	NO	YES	NO
Y-0012	Hydrogen Plants Cooling Tower	NO	YES	NO
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	NO	NO	NO

Table 103.G, Summary Applicability – Wastewater

Equipment ID	Emission Point ID	MACT CC Wastewater	NESHAP FF	NSPS QQQ	CAM
MAIN API	D-0829/0830	YES	YES	YES	NO
DAF-0896	DAF-0896	YES	YES	NO	NO
DAF-0806	DAF-0806	YES	YES	NO	NO
T-0801		YES	YES	NO	NO
T-0805		YES	YES	NO	NO
T-0829		YES	YES	NO	NO
T-0836		YES	YES	NO	NO
T-0897		YES	YES	NO	NO

Table 103.H, Summary Applicability – FCC-CCR

Unit ID	NSPS J	NSPS Ja	MACT UUU	20.2.37 NMAC	CAM
FCCREGEN	YES	NO	YES	YES	YES - Satisfied by MACT UUU
CCR	N/A	N/A	YES	N/A	NO

Table 103.I, Summary Applicability – SRU

Source ID	Emission Point ID	Description	NSPS J	NSPS Ja	MACT UUU	20.2.36.113.A(1)(d) & 20.2.36.113.A(1)(e)	20.2.37.200B	20.2.37.202.A	20.2.39	CAM
SRU1	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU
SRU2	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU
SRU3	SRU3-TGI	SRU3 Tail Gas Incinerator	NO	YES	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU

Table 103.J, Summary Applicability – Engines

Source ID	Description	NSPS IIII	MACT ZZZZ	20.2.61.109 NMAC	20.2.61.114 NMAC	CAM
E-0600W	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0601M	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0602E	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0603	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0901	Fire Water Pump Engine	YES	YES	YES	YES	NO
G-0100	UPS backup generator	NO	YES	YES	YES	NO
G-0101	UPS backup generator	NO	YES	YES	YES	NO
V-0543	Portable Air Compressor	YES	YES	YES	YES	NO
V-0545	Portable Air Compressor	YES	YES	YES	YES	NO
V-0546	Portable Air Compressor	YES	YES	YES	YES	NO
E-8010	WWTP Emergency Engine	YES	YES	YES	YES	NO

Table 103.K, Summary Applicability – FLARES

Unit ID	Description	NSPS A	NSPS J	NSPS Ja	NESHAP A	MACT A	20.2.36.112 NMAC	20.2.36.113b NMAC	20.2.37.201B NMAC
FL-400	North Plant Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-401	South Plant Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-402	FCCU Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-403	Alky Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-404	GOHT Flare	YES	NO	YES	NO	YES	YES	YES	YES

All flares are steam assisted.

State of New Mexico requires that an exit gas velocity of 65 ft/sec for modeling.

The heating value of the gas for all flares is < 1000 BTU/scf.

A103 Facility: Applicable Regulations

M. Compliance with the terms and conditions of this permit regarding source emissions and operation demonstrate compliance with national ambient air quality standards specified at 40 CFR 50, which were applicable at the time air dispersion modeling was performed for the facility's NSR Permit 0195-M35.

This permit condition provides a list of the applicable requirements that are addressed in detail in other permit conditions but does not impose any specific standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).

☐ Continuous
☒ Intermittent

☒ Yes
☐ No

☐ Yes
☒ No

A104 Facility: Regulated Sources

A. Table 104.A lists the emission units authorized for this facility. Emission units identified as insignificant or trivial activities (as defined in 20.2.70.7 NMAC) and/or equipment not regulated pursuant to the Act are not included.

This permit condition provides a list but does not impose any standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more

☐ Continuous
☒ Intermittent

☒ Yes
☐ No

☐ Yes
☒ No

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	information).			
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Table 104.A: Regulated Sources List

Unit No.	Unit Type	Manufacturer	Model No.	Manufacture Date	Capacity
B-0007	Boiler 7	Todd/John Zink burners	Unknown	10/8/2001 *	215 MMBtu/hr (LHV Basis)
B-0008	Boiler 8	Todd/John Zink burners	Unknown	2003 *	215 MMBtu/hr (LHV Basis)
B-0009	Boiler 9	Babcock & Wilcox	TBD	TBD	220 MMBtu/hr (LHV Basis)
E-8010	WWTP Diesel Pump Engine	John Deere	6090HF485/ RG6090L101484	2/2011	400 hp
E-0600W	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113548	7/2012	376 hp
E-0601M	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113561	7/2012	376 hp
E-0602E	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113574	7/2012	376 hp
E-0603	Fire Water Pump Engine	Clarke Diesel (John Deere)	JU6H-UFADX8/ PE6068L228486	2012	305 hp
E-0901	Fire Water Pump Engine	Clarke Diesel (John Deere)	JX6H-UF30* RG6125A016118	10/2007	430 hp
G-0100	UPS backup generator	Deutz	F4L912GEN/ Engine Family WDZXL05.7010	1998	52 hp
G-0101	UPS backup generator	Deutz	F4L 1011 F/ E197-68CA00-000-0053	1999	54 hp
V-0543	Portable Air Compressor	Cummings, Inc.	QSC, 73104611	8/30/2010	260 hp
V-0545	Portable Air Compressor	Cummings, Inc.	QSC, 73142120	4/8/2011	260 hp
V-0546	Portable Air Compressor	Cummings, Inc.	QSC, 46917364	11/19/2008	240 hp
H-0009	Unit 13 Naphtha Splitter Reboiler	Zeeco burners	GSFW-12 burners	Unknown	44 MMBtu/hr (LHV Basis)
H-0011	Unit 21 Vacuum Flasher Heater	Unknown	Unknown	Unknown	38 MMBtu/hr (LHV Basis)
H-0018	Naphtha HDS Reboiler	Zeeco burners	GSFW-8 burners	Unknown	32 MMBtu/hr (LHV Basis)
H-0019	South Crude Charge Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2005	54 MMBtu/hr (LHV Basis)
H-0020	South Crude Charge Heater	Callidus Technologies, LLC burners	CUBL-12W burners	New burners in 2005	78 MMBtu/hr (LHV Basis)
H-0028	Unit 21 Heater H-28 (previously H-10)	John Zink burners	PSFG-12 burners	Unknown	12.3 MMBtu/hr (LHV Basis)
H-0030	Unit 06 Charge Heater	John Zink burners	PSFG-16R burners	2000*	42 MMBtu/hr (LHV Basis)
H-0040	Unit 13 Charge Heater	John Zink burners	PSFG-16 burners	1990*	42 MMBtu/hr (LHV Basis)
H-0303	Unit 05 Charge Heater	John Zink burners	HEVD-Q-18 burners	1982*	11 MMBtu/hr (LHV Basis)
H-0312	Unit 10 FCC Feed Heater	John Zink burners	VYD-18 burners	1990*	35 MMBtu/hr (LHV Basis)
H-0352	Unit 70 CCR Heater (previously 70-H1)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	63 MMBtu/hr (LHV Basis)
H-0353	Unit 70 CCR Heater (previously 70-H2)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	81 MMBtu/hr (LHV Basis)
H-0354	Unit 70 CCR Heater (previously 70-H3)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	56 MMBtu/hr (LHV Basis)
H-0355	Unit 70 Stabilizer Reboiler Heater H-355 (previously 70H-4)	John Zink burners	Unknown	1991*	24 MMBtu/hr (LHV Basis)
H-0362	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2006	40 MMBtu/hr (LHV Basis)
H-0363	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2006	50 MMBtu/hr (LHV Basis)

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H-0364	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-6W burners	New burners in 2006	35 MMBtu/hr (LHV Basis)
H-0421	Unit 44 Charge Heater (previously H-21)	John Zink burners	LNC-PC-18 burners	1981*	27 MMBtu/hr (LHV Basis)
H-0464	SRU Hot Oil Heater	Callidus Technologies, LLC burners	LE-CSG-4W burners	2003*	9.6 MMBtu/hr (LHV Basis)
H-0600	Depropanizer Reboiler Heater (previously 3F-1)	Callidus Technologies, LLC burners	CUBL-12W burners	1991*, New burners in 2009	84 MMBtu/hr (LHV Basis)
H-0601	Unit 33 Charge Heater	Callidus Technologies, LLC burners	CUB-8P-CW burners	New burners in 2003	78 MMBtu/hr (LHV Basis)
H-2421	Unit 45 Charge Heater	Zeeco, Inc. burners	GLSF-14 Round Flame "Free Jet" burners	2006*	27 MMBtu/hr (LHV Basis)
H-8801	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-8802	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-2501	ROSE2 Hot Oil Heater	John Zink Company, LLC burners	COOLstar-18 burners	2009*	120 MMBtu/hr (LHV Basis)
H-3403	Hydrocracker Reactor Charge Heater	Callidus Technologies, LLC burners	CUBL-10W burners	TBD	32.0 MMBtu/hr (LHV Basis)
H-3402	Hydrocracker Fractionator Reboiler 1	Callidus Technologies, LLC burners	LE-CSG-12W burners	2009*	52 MMBtu/hr (LHV Basis)
H-9851	Unit 64 Hydrogen Plant Reformer	Callidus Technologies, LLC burners	CUBL-3WDF burners	2009*	337 MMBtu/hr (LHV Basis)
H-3101	SRU3 Hot Oil Heater	Callidus Technologies, LLC burner	Unknown	05/11/2009 *	9.6 MMBtu/hr (LHV Basis)
H-0473 (SRU1/SRU2 TGI)	SRU1 and SRU2 Tail Gas Incinerator	Unknown	Unknown	Unknown	NA
SRU3-TGI	SRU3 Tail Gas Incinerator	Callidus Technologies, LLC burners	Unknown	05/11/2009 *	NA
FCC Regenerator	FCC Regenerator Scrubber	Unknown	Unknown	Unknown	NA
CCRr	CCR Reformer	Unknown	Unknown	Unknown	NA
FL-0400, North Plant Flare	North Plant Flare	Unknown	Unknown	Unknown	NA
FL-0401, South Plant Flare	South Plant Flare	Unknown	Unknown	Unknown	NA
FL-0402, FCC Flare	FCC Flare	Unknown	Unknown	Unknown	NA
FL-0403, Alky Flare	Alky Flare	Unknown	Unknown	Unknown	NA
FL-0404, GOHT Flare	GOHT Flare	Unknown	Unknown	Unknown	NA
Y-0001	TCC Cooling Tower	Unknown	Unknown	Unknown	5,000 gpm, 0.003% drift
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	Unknown	Unknown	Unknown	5,000 gpm, 0.003% drift
Y-0008	North Alky Cooling Tower	Unknown	Unknown	Unknown	12,500 gpm, 0.003% drift
Y-0011	FCC & NP Cooling Tower	Unknown	Unknown	Unknown	30,000 gpm, 0.001% drift
Y-0012	Hydrogen Plants Cooling Tower	Unknown	Unknown	Unknown	10,000 gpm, 0.001% drift
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	Unknown	Unknown	Unknown	3,000 gpm, 0.003% drift
MAIN API	Above Ground API Oil-Water Separator	Unknown	Unknown	Unknown	1,200 gpm
T-0896	DAF Unit T-0896	Unknown	Unknown	Unknown	1,200 gpm
T-0801	Enhanced Biodegradation Tank T-0801	Unknown	Unknown	Unknown	1,200 gpm
T-0836	Enhanced Biodegradation Tank T-0836	Unknown	Unknown	Unknown	1,200 gpm
T-0829	Equalization Tank T-0829	Not yet installed	Not yet installed	Not yet installed	1,200 gpm
T-0806	DAF Unit T-0806	Not yet installed	Not yet installed	Not yet installed	Not yet installed
Fugitives (see Table 103.B)	Equipment component leaks (pump seals, valves, flanges, etc.)	NA	NA	Varies	NA
Loading (see Table 103.D)	Bulk Loading/Unloading Racks	NA	NA	Varies	Varies
Tanks (see Table 103.C)	Fixed Roof, External Floating Roof & Internal Floating Roof Tanks	NA	NA	Varies	Varies
* Installation date					

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Note: Serial numbers are not used since most equipment consists of field erected parts that are assembled on site and may have several "serial numbers" for various components. Heaters are the best example because each of the burners has a serial number but the heater as a whole does not have a single serial number. The heater as a whole is typically identified by our equipment number. There may also be a "project number" or "job number" from the manufacturer, but that can change if a heater is revamped at a later date such as when they modify the convection section to improve energy efficiency.

A105 Facility: Control Methods A. Table 105.A lists all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.	This permit condition provides a list but does not impose any standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
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Table 105.A: Control Methods:

Control Equipment Unit No.	Control Description	BACT Yes or No	Pollutant being controlled	Control for Unit Number(s) ¹
FCC Regenerator Scrubber	Fluid Catalytic Cracking Unit Regenerator Cyclones + Wet Gas Scrubber	NO	PM & SO ₂	FCC Regenerator
CHLOR SORB®	CCR Regenerator Vent Control	NO	Chloride	CCR Regenerator Vent
FL-0400	North Plant Flare	NO	VOC & H ₂ S	Refinery process units

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FL-0401	South Plant Flare	NO	VOC & H ₂ S	Refinery process units
FL-0402	FCC Flare	NO	VOC & H ₂ S	Refinery process units
FL-0403	Alky Flare	NO	VOC	Refinery process units
FL-0404	GOH Flare	NO	VOC & H ₂ S	Refinery process units
FL-HEP-PORT	Portable Flare for Holly Energy Partners (HEP) Pipeline Pigging Operations	NO	VOC	Pipeline Pigging Operations
H-0473	Sulfur Recovery Units No. 1 & 2 Tail Gas Incinerator	NO	Sulfur	SRU1 and SRU2
SCR	Selective Catalytic Reduction + ultra-low NO _x burners	YES	NO _x	H-9851
SRU3-TGI	Sulfur Recovery Unit No. 3 Tail Gas Incinerator	YES	Sulfur	SRU3
SRU3/TGTU3/TGI3	Best Work Practices, <u>A207.B</u> (BACT)	YES	SO ₂	SRU3
D-0829/0830	Main API Carbon Canisters	NO	VOC	MAIN API
Y-0011, Y-0012	Drift Eliminators on Cooling Towers (BACT)	YES	PM	Y-0011, Y-0012

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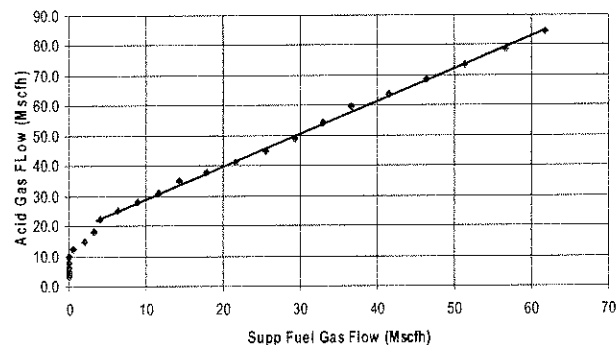
T-0737, T-1225	External Floating Roofs (BACT)	YES	VOC	T-0737, T-1225
See <u>Tables 106.B(1) and (2)</u>	External and Internal Floating Roofs (None-BACT)	NO	VOC	See Tables 106.B(1) and (2)
B-0009	Energy Efficiency, A204.N (BACT)	Yes	Greenhouse Gases	B-0009
H-2501, H-3402, H-3101	ultra-low NOx burners (BACT)	Yes	NOx	H-2501, H-3402, H-3101
SRU-TGI, H-2501, H-3402, H-3101	Combust gaseous fuels only	Yes	VOC, PM	SRU-TGI, H-2501, H-3402, H-3101

1 Control for unit number refers to a unit number from the Regulated Equipment List

- B. In accordance with the requirement that Navajo Refining prevent exceedances of the 24-hour and 3-hour National Ambient Air Quality Standards (NAAQS) for SO₂ during major refinery malfunctions, Navajo Refining shall only flare acid gas from existing Flare FL-0403 according to Navajo Refining's "Phase Two" plan dated January 5, 1996 and received by the Department on January 8, 1996, or from Flare FL-0400. Navajo shall undertake the following measures for acid gas flaring from FL-0400 and FL-0403.

CHART NO. 1

SUPP FUEL FOR SO₂ NAAQS COMPLIANCE, FL-400

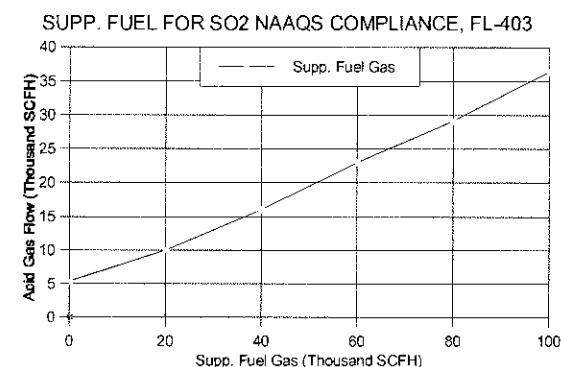


(1) Existing Flare FL-0400 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough heat to supplement the

heat released by combustion of the acid gas itself and the heat provided by smoke-suppressing steam. The minimum flow rate of supplemental fuel gas to be supplied during acid gas flaring such that compliance with the NAAQS for SO₂ is assured shall be determined using Chart No. 1. The fuel gas used for this purpose shall be natural gas (see definition at C101.F).

- (2) Existing Flare FL-0403 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough supplemental heat. The volume of supplemental fuel gas to be provided to generate enough supplemental heat to ensure compliance with NAAQS for SO₂ shall be determined using Chart No. 2. The supplemental heat to be provided when flaring the maximum quantity of acid gas has been determined to be 52.9 million BTU per hour which is generated by burning 96,200 SCFH of supplemental fuel gas. This assumption has been made to ensure compliance with the NAAQS for SO₂. The fuel gas used for this purpose shall be natural gas (see definition at C101.F).

CHART NO. 2



- C. Beginning December 20, 2001 no fuel oil shall be burned in combustion units except as follows: (CD ¶17.C)
- (1) Torch Oil may be burned in the FCC Regenerator during FCC start-ups; and.
 - (2) Fuel Oil may be burned in combustion units after the establishment of FCC NO_x emissions limits pursuant to permit condition A110.A, provided that emissions from any such combustion units are routed through the FCC Wet Gas Scrubber and Navajo demonstrates, with the approval of EPA, that the NO_x emissions limits contained therein and the SO₂ emissions limits stated in A106.A and A107.A will continue to be met.
- D. The Artesia Refinery FCC was initially limited to less than 20,000 BPD capacity. Following the December 2003 expansion of the Artesia refinery's FCC as authorized by permit 195-M15, the catalyst regenerator for the FCC is subject to the minimum requirements for continuous emission monitoring and recording set forth in Appendix P to 40 CFR Part 51. Consent Decree Paragraph 15 required the FCC to be subject to NSPS Subpart J for opacity as of December 31, 2003. A wet gas scrubber was installed in 2003. An Alternative Monitoring Plan (AMP) request was submitted to EPA on December 31, 2003 because a continuous opacity monitoring system (COMS) will not work on a wet gas scrubber exhaust because of the interference from the water vapor. The AMP satisfies the requirements for both NSPS Subpart J and 40 CFR Part 51 Appendix P

A106 Facility: Allowable Emissions A. The following Section lists the emission units, and their allowable emission limits. (See Table 103.A for all applicable regulations)	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
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Table 106.A: Allowable Emissions

		SO ₂		NO _x			CO			PM		VOC	
Source ID	^{3,5} MM Btu/hr	⁵ (lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu LHV)	(lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)
B-0007	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7		1.8	7.8	1.3	5.6
B-0008	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7		1.8	7.8	1.3	5.6
B-0009	220	2.6	11.4	4.4	19.3	0.02 BACT	8.1	35.7		1.6	7.2	0.9	3.9
H-0009	44	1.6	2.6	4.0	17.3	0.09	4.0	17.5		0.4	1.6	0.3	1.2
H-0011	38	1.4	2.3	9.5	31.6	-	3.5	15.2		0.3	1.4	0.2	1.0
H-0018	32	1.2	1.9	3.5	15.2	-	2.9	12.8		0.3	1.2	0.2	0.8
H-0019	54	2.0	3.2	2.9	12.5	0.0527	4.9	21.5		0.4	2.0	0.3	1.4
H-0020	78	2.8	4.6	4.2	18.3	0.0535	7.1	31.1		0.6	2.8	0.5	2.0
H-0028	12.3	0.4	0.7	2.2	9.5	-	1.1	4.9		0.1	0.4	0.1	0.3
H-0030	42	1.5	2.5	3.2	14.0	-	3.8	16.8		0.4	1.5	0.3	1.1
H-0040	42	1.5	2.5	3.8	16.6	-	3.8	16.8		0.4	1.5	0.3	1.1
H-0352/0353/0354	63/81/56	7.3	11.8	9.0	39.4	0.045	18.2	79.7		1.7	7.2	1.2	5.2
H-0355	24	0.9	1.4	2.2	9.5	-	2.2	9.6		0.2	0.9	0.1	0.6
H-0303	11	0.4	0.7	1.2	5.2	-	1.0	4.4		0.1	0.4	0.1	0.3
H-0312	35	1.3	2.1	4.6	20.2	-	3.2	14.0		0.3	1.3	0.2	0.9
H-0362/0363/0364	40/50/35	4.6	7.4	6.9	30.1	0.055	11.4	49.8		1.0	4.5	0.7	3.3
H-0421	27	1.0	1.6	2.4	10.6	0.09	2.5	10.8		0.2	1.0	0.2	0.7
H-0464	9.6	0.4	0.6	0.5	2.3	-	0.9	3.8		0.1	0.4	0.1	0.3
H-0600	84	3.1	5.0	4.7	20.3	0.05	7.6	33.5		0.7	3.03	0.5	2.2
H-0601	78	2.8	4.6	3.5	15.4	0.045	7.1	31.1		0.6	2.8	0.5	2.0
H-2421	27	1.0	1.6	1.2	5.3	0.045	2.5	10.8		0.2	1.0	0.2	0.7
H-8801/8802	60/60	0.2	0.8	4.2	18.4	0.035	10.9	47.8		1.0	4.3	0.7	3.1
H-2501	120	4.4	7.1	3.6	15.8	0.03	7.2	31.5	0.09 BACT	1.0	4.3	0.7	3.1
H-3402	52	1.9	3.1	1.6	6.8	0.03	4.7	20.7	0.09 BACT	0.4	1.9	0.3	1.4

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H-3403	32.0	1.2	1.9	1.0	4.2	0.03	2.9	12.8		0.3	1.2	0.2	0.8
H-9851	337	0.5	2.2	4.2	18.5	0.0125 BACT	20.2	88.6	0.06 BACT	2.8	12.2	2.0	8.8
H-3101	9.6	0.4	0.6	0.3	1.3	0.03	0.9	3.8	0.09 BACT	0.1	0.4	0.1	0.3
H-0473 (SRU1/SRU2 TGI)	NA	30.0	81.8	6.5	28.5	N/A	27.7	121.2		0.5	2.2	0.1	0.6
SRU3-TGI	NA	30.0	81.8	6.5	28.5	N/A	15.0	65.7		0.5	2.2	0.1	0.6
FCC Regenerator	NA	27.9	61.0	35.0	101.9	N/A	121.9	106.8		25.0	109.5	-	-
FL-0400, North Plant Flare	NA	0.2	0.5	0.2	0.8	N/A	1.0	4.3		0.0	0.0	0.2	0.7
FL-0401, South Plant Flare	NA	0.1	0.1	<0.1	0.2	N/A	0.2	1.1		0.0	0.0	<0.1	0.2
FL-0402, FCC Flare	NA	0.1	0.1	<0.1	0.2	N/A	0.2	1.1		0.0	0.0	<0.1	0.2
FL-0403, Alky Flare	NA	<0.1	<0.1	<0.1	<0.1	N/A	<0.1	0.2		0.0	0.0	<0.1	<0.1
FL-0404, GOHT Flare	NA	2.4	10.5	4.1	18.1	N/A	13.6	59.6		0.0	0.0	2.3	10.2
Subtotal			345.4		668.8			1156.2			196.0		70.2
Tanks, Table 106.E													322.4
Fugitives, Table 106.F													994.6
Misc Sources, Table 106.G													16.6
Cooling Towers, Table 106.H								2.5			9.0		56.2
Oil/Water Separators, Table 106.I												5.3	9.5
⁶ SSM, Table 107			27.4		31.6			97.6			0.4		46.2
TOTAL ¹	NA		372.8		700.4	N/A		1256.3			205.3		1515.7

¹ Totals are for information and are not enforceable conditions.² Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO₂³ lbs-NO_x/MMBtu of heat input, calculated as a 3-hour average, when firing natural gas at 3% stack oxygen at full design load without air preheat.⁴ All Particulate Matter emitted is assumed to be of aerodynamic diameter 10 microns or less.⁵ Hourly emission limits and lb/MM Btu limits are based on a hourly rolling 3-hour average.⁶ Maximum allowable emissions during maintenance, startup, or shutdown (SSM) and malfunction activities.

“-“ indicates that in accordance with the application, emissions of this pollutant are not expected.

“- -“ indicates that the emissions are less than 1.0 pph or 1.0 tpy and emission limits are not required for this permit, unless it's for a control device.

Unit 9851, the SCR exhaust has Ammonia Slip limit of 7 ppmv on a wet basis and 6.1 tpy (BACT).

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A106 Facility: Allowable Emissions B. The permitted emission sources at the refinery shall consist only of the sources listed in Table 106.A and <u>Tables 106.B through 106.I</u> of this permit.		Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.		☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
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INTERNAL FLOATING ROOF STORAGE TANKS			
TABLE 106.B(1) VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC)			
Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored ¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0056	Naphthas	High Vapor Pressure ²	11.0
T-0106	Distillates	High Vapor Pressure ²	11.0
T-0107	Gasolines	High Vapor Pressure ²	11.0
T-0108	Gasolines	High Vapor Pressure ²	11.0
T-0109	Gasolines	High Vapor Pressure ²	11.0
T-0111	Naphthas	High Vapor Pressure ²	11.0
T-0112	Naphthas	High Vapor Pressure ²	11.0
T-0011	Gasolines	High Vapor Pressure ²	11.0
T-0124	Gasolines	High Vapor Pressure ²	11.0
T-0012	Gasolines	High Vapor Pressure ²	11.0
T-0413	Distillates	High Vapor Pressure ²	11.0
T-0415	Gasolines	High Vapor Pressure ²	11.0
T-0417	Gasolines	High Vapor Pressure ²	11.0
T-0439	Crude Oil	High Vapor Pressure ²	11.0

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

EXTERNAL FLOATING ROOF STORAGE TANKS**TABLE 106.B(2) VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC) -**

Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored ¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0057	Naphthas	High Vapor Pressure ²	11.0
T-0078	Isomerates	High Vapor Pressure ²	11.0
T-0079	Isomerates	High Vapor Pressure ²	11.0
T-0117	Gasolines	High Vapor Pressure ²	11.0
T-0401	Gasolines	High Vapor Pressure ²	11.0
T-0402	Gasolines	High Vapor Pressure ²	11.0
T-0411	Gasolines	High Vapor Pressure ²	11.0
T-0412	Gasolines	High Vapor Pressure ²	11.0
T-0435	Crude Oil	High Vapor Pressure ²	11.0
T-0437	Crude Oil	High Vapor Pressure ²	11.0
T-0450	Naphthas	High Vapor Pressure ²	11.0
T-0802	Sour Water	High Vapor Pressure ²	11.0
T-0830	Slop	High Vapor Pressure ²	11.0
T-0834	Distillates	Moderate Vapor Pressure ³	1.5
T-0835	Distillates	High Vapor Pressure ²	11.0
T-1225	Naphthas	High Vapor Pressure ²	11.0
T-0737	Sour Water	High Vapor Pressure ²	11.0
TK-NEWETHANOL	Ethanol	High Vapor Pressure ²	2.32

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomerate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

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FIXED ROOF STORAGE TANKS			
TABLE 106.C VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)			
Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0013	Slop	Moderate Vapor Pressure ³	1.5
T-0040	Distillates	Low Vapor Pressure ⁴	0.5
T-0041	Distillates	Low Vapor Pressure ⁴	0.5
T-0110	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0400	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0404	Carbon Black Oil (CBO)	Low Vapor Pressure ⁴	0.5
T-0405	CBO	Low Vapor Pressure ⁴	0.5
T-0409	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0410	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0418	Distillates	Low Vapor Pressure ⁴	0.5
T-0419	Distillates	Low Vapor Pressure ⁴	0.5
T-0420	CBO	Low Vapor Pressure ⁴	0.5
T-0422	Distillates	Low Vapor Pressure ⁴	0.5
T-0423	Distillates	Low Vapor Pressure ⁴	0.5
T-0431	Distillates	Low Vapor Pressure ⁴	0.5
T-0432	Distillates	Low Vapor Pressure ⁴	0.5
T-0049	Slop	Moderate Vapor Pressure ³	1.5
T-0055	Distillates	Low Vapor Pressure ⁴	0.5
T-0058	Distillates	Low Vapor Pressure ⁴	0.5
T-0059	CBO	Low Vapor Pressure ⁴	0.5
T-0061	Distillates	Low Vapor Pressure ⁴	0.5
T-0063	CBO	Low Vapor Pressure ⁴	0.5

T-0065	CBO	Low Vapor Pressure ⁴	0.5
T-0075	CBO	Low Vapor Pressure ⁴	0.5
T-0433	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0434	Distillates	Low Vapor Pressure ⁴	0.5
T-0438	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0810	Slop	Moderate Vapor Pressure ³	1.5
T-0814	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0815	Distillates	Low Vapor Pressure ⁴	0.5
T-0838	Distillates	Low Vapor Pressure ⁴	0.5
T-1227	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0081	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0082	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
RW-4	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-5	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-6	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
TK-NEWBIODIES EL	Biodiesel	Low Vapor Pressure ⁴	0.022

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

⁴ Low Vapor Pressure Liquids include: Diesel (raw or finished), Kerosene (raw or finished), JP-8, CBO, LCO, Slurry, Heavy Slop, Cutback Asphalt, Cutter, VGO, AGO, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure less than 0.5 psia under actual storage conditions.

TABLE 106.D – STORAGE TANK THROUGHPUT AND TEMPERATURE LIMITS

Material	Throughput (bbl/yr)	Maximum Storage Temperature (°F)
Asphalt/Pitch	30,872,000	510
Carbon Black Oil (CBO)	1,291,610	250
Crude Oil	76,212,000	Ambient

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Distillate	55,076,590	310
Gas Oil	25,059,500	310
Gasoline (includes isomerates)	57,910,908	Ambient
Naphtha	39,028,084	Ambient
Slop	1,330,000	Ambient
Sour Water	45,051	Ambient
BioDiesel	949,000	Ambient
Methanol	142,350	Ambient

TABLE 106.E- STORAGE TANK VOC AND H₂S EMISSION LIMITS¹ (return to A203)

Tank Type	VOC Emission Rate (tpy)	H ₂ S Emission Rate (tpy)
Fixed-Roof	238.6	0.0
Floating-Roof	83.8	1.47
Total Tanks	322.4	1.47

¹ The permittee shall demonstrate compliance with the above throughputs and emission limits through the annual emissions inventory process. Specific tank data (e.g. temperature & throughputs) shall be monitored and recorded weekly by the permittee.

Table 106.F, ¹EMISSIONS LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC) FUGITIVE EMISSIONS FROM EQUIPMENT LEAKS

Process Unit ID Number	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
FUG-02-SP CRUDE	South Division Crude Unit	10.2	44.6
FUG-10-FCC	FCC w/CVS	10.8	47.2
FUG-20-ISOM	Powerformer/Penex Unit w/CVS	5.9	25.7
FUG-21-SP VACUUM	Flasher/Vacuum Unit	3.2	13.9
FUG-05-KERO	Kerosene HDS Unit	5.2	22.7
FUG-06-NHCU	JP8 Hydrodesulfurization	7.1	30.9
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	3.5	15.3
FUG-35-SAT GAS	Saturates Gas Plant	18.3	80.0
FUG-29-BLENDER/TK FARM	Light Oil Tankage	6.8	29.6
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	3.5	15.3
FUG-FUEL GAS	Fuel Gas Distribution System	4.2	18.2

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FUG-LPG	LPG Storage System	21.6	94.4
FUG-41-PBC	PBC Unit	3.4	14.7
FUG-70-CCR	CCR Reformer (w/in battery limits)	23.4	102.3
FUG-13-NH DU	Naphtha HDS Unit	10.2	44.6
FUG-43-S ALKY	South Alky Unit (W-76)	1.7	7.5
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	12.0	52.5
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	9.3	40.6
FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	2.6	11.2
FUG-07-N AMINE	Amine Unit-Treating/Regen.	6.3	27.5
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/CVS	2.4	10.4
FUG-07-SWS1	Sour Water Stripper	1.6	7.0
FUG-80-WWTP CVS	Oil/Water Separator	1.3	5.5
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/CVS	12.9	56.4
FUG-08-TRUCK RK	Loading Racks	2.8	12.1
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	0.7	2.9
FUG-73-SP UTIL	Utilities	16.7	73.3
FUG-63-H2 PLANT-1	Hydrogen Plant	2.6	11.2
FUG-31-SRU3/TGTU3/TGIB	SRU3 Unit	0.7	3.1
FUG-34-HYDROCRACKER	WX Hydrocracker	6.2	27.2
FUG-25-ROSE-2	ROSE Unit	8.0	35.1
FUG-64-H2 PLANT-2	Hydrogen Plant	2.6	11.2
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks	0.1	0.5
Subtotal Facility VOC CAP		227.8	994.6

Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available Significant permit revision in accordance with 20.2.72 NMAC. The facility wide fugitive VOC emission limit shown above and in Table 106.A of this permit.

MISCELLANEOUS SOURCES

Table 106.G EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)

Loading Rack	Loading Rack Description	Material Loaded	Hourly Throughput	Annual Throughput	VOC Emissions	
			bbl/hr	bbl/yr	lb/hr	ton/yr
TL-4 ^a	Fuels Truck Loading Rack	Gasoline	1214	1,600,696	4.25	2.80
		Diesel	107100	3,650,000	1.72	1.72
		Jet Fuel	35700	1,021,718	0.75	0.34
		TOTAL VOC			6.73	4.86
TL-7	CBO/LCO Truck	Carbon Black Oil	30000	500,808	6.30	1.57

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	Loading Rack	Light Cycle Oil	38100	20,119	3.55	0.06
		TOTAL VOC			6.30	1.63
RLO-8	Railcar Loading & Off-Loading Rack	Carbon Black Oil	30000	365,000	6.30	1.15
		Diesel	20000	1,144,000	0.32	0.54
		Jet Fuel	20000	1,144,000	0.42	0.38
		Asphalt	30000	2,628,000	0.01	0.03
		TOTAL VOC			6.30	2.09
FUG-ODOR	Odor Controlling Atomizer		1250 ml/hr	10950 liters	0.46	2.0

Note:1. Calculation method and factors per AP-42, Section 5.2, dated June 2008.

a Controlled emission rate. The previous controlled rate was set by the terms of the consent agreement between Navajo Refining Co. and the Department executed January 28, 1994. The agreement required that the incinerator have a minimum 90% destruction efficiency for gasoline loading and a minimum 80% destruction efficiency for diesel fuel loading or Jet A fuel loading. This was achieved by a vapor combustor. This device has since been replaced with a carbon adsorption system compliant with MACT Subpart R, as subject per MACT Subpart CC. Emission limits changed in 195-M-17 to correspond to Title V permit values.

COOLING TOWERS						
Table 106.H EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS and PM						
Source ID	VOC lb/hr	VOC tons/yr	PM (lb/hr)	PM (tons/yr)	CO (lb/hr)	CO (tons/yr)
Y-0001	1.8	7.9	0.3	1.2		
Y-0002	1.8	7.9	0.3	1.2		
Y-0008 ^a	6.5	28.3	0.7	2.9	0.58	2.54
Y-0011	1.3	5.5	0.5	2.3		
Y-0012	0.4	1.8	0.2	0.8		
CT TT-0006	1.1	4.7	0.2	0.7		
Subtotal (for informational purposes only)	12.8	56.1	2.1	9.1		

^a Y-0008 cooling tower provides 100% control of any NH₃ emissions from V-H2 and V-H2-2. Unit 64, Hydrogen Plant has de-aerator line that has dissolved CO that is connected to the cooling tower.

API OIL/WATER SEPARATORS				
Table 106.I EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)				
Equipment ID	Emission Point ID	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
MAIN API	D-0829/0830	Above Ground API Oil-Water Separators	<0.1	<0.1

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		and enclosed drain system.			
T-0896	DAF-0896	DAF Unit T-0896	<0.1	<0.1	
T-0801	T-0801	Enhanced Biodegradation Tank T-0801	<0.1	<0.1	
T-0836	T-0836	Enhanced Biodegradation Tank T-0836	0.1	0.5	
T-0829	T-0829	Equalization Tank T-0829	5.1	8.9	
T-0806	DAF-0806	DAF Unit T-0806	<0.1	<0.1	
		Subtotal (for informational purposes only)	5.3	9.4	

A106 Facility: Allowable Emissions C. Compliance with Allowable Emission Limits Requirement: The allowable mmBtu/hr, lb/mmBtu, lb/hr, and tpy emission limits for equipment listed in Table 106.A construction of which predates the effective date of 20.2.72 NMAC (August 31, 1972), and have not been modified since August 31, 1972, shall be the "potential emission rate" of that unit as defined in 20.2.72.107 NMAC and the potential to emit of that unit defined under 20.2.74 NMAC. The mmBtu/hr, lb/hr and lb/mmBtu limits are based on an hourly rolling 3-hour average. (NSR 0195M35, Condition A106.C and revised)		Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No	
Monitoring: For units with lb/mmBtu emission limits in Table 106.A, the Permittee shall monitor the lb/mmBtu to demonstrate compliance with the mmBtu/hr, lb/hr, and tpy emission limits.			☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No	
Recordkeeping: To demonstrate compliance, records shall be kept showing the correlation between lb/mmBtu and the			☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No	

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mmBtu/hr and lb/hr, and the monthly rolling 12-month tpy totals. The records shall also document any non-compliance with emission limits. For each unit, a summary of the method used to determine compliance shall be recorded. The permittee shall maintain records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☐ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A106 Facility: Allowable Emissions D. BACT SO₂ Limit – Fuel sulfur limit Refinery-Wide for all units burning refinery fuel gas (excluding units H-8801, H-8802 and H-9851 which burn only natural gas) shall not exceed 60 ppmv H₂S on a daily rolling 365-day average. The ton/yr emission rates for SO₂ in Table 106.A of this permit are based on this daily rolling 365-day average 60 ppmv H₂S limit. Compliance with this limit shall be demonstrated per the methods described in Condition A110.A.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A106 Facility: Allowable Emissions E. BACT NO_x Limit - In addition to the emission limits shown in Table 106.A, Boiler Unit B-0009 has a BACT NO_x limit of 0.02 lb/MM Btu, and CO₂ limit of 112.1 lb/MM Btu.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

A106 Facility: Allowable Emissions F. BACT SO₂ Limit – The Sulfur Recovery Unit No. 3 Tail Gas Incinerator (SRU3-TGI) is limited to 192 ppmvd SO ₂ at zero percent oxygen on a hourly rolling 12-hour average basis. In addition, SRU3-TGI is limited to 192 ppmvd SO ₂ at zero percent oxygen on a daily rolling 365-day average basis.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A106 Facility: Allowable Emissions G. BACT VOC Limit – The naphtha storage tank T-1225 and sour water storage tank T-0737 shall be equipped with an external floating roof using double seals to reduce VOC emissions to the atmosphere. The maximum true vapor pressure of any volatile organic liquid stored in either tank shall not exceed 11.0 psia. Demonstration of compliance is through the NSPS Kb and MACT emission limits.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A106 Facility: Allowable Emissions H. VOC – All fugitive piping components in VOC service associated with the process units proposed in Permit 195-M25 (Units FUG-25-ROSE-2, FUG-31-SRU3/TGI3/TGI3, and FUG-34-Hydorcracker) shall be monitored under the MACT subpart CC leak detection and repair program, or an approved equivalent program, to reduce VOC emissions.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A106 Facility: Allowable Emissions I. VOC – Consistent with MACT Subpart CC, the gasoline truck loading rack (TLO-4) shall be limited to 10 mg of VOC emissions per liter of gasoline loaded.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A106 Facility: Allowable Emissions J. PM10 – Cooling towers, Units Y-0011 and Y-0012, shall be equipped with high-efficiency drift eliminators to reduce PM10 emissions. Demonstration of compliance is through annual inspection in accordance with in Condition A212.B.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions A. The maximum allowable SSM and Malfunction emissions limits for this facility are listed in Table 107.A and were relied upon by the Department to determine compliance with applicable regulations.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

Table 107.A: Allowable SSM and Malfunction Units, Activities, and Emission Limits¹

Unit	Description of Emissions	NO _x		CO		VOC		TSP/PM ₁₀ /PM _{2.5}		SO ₂		H ₂ S	
		pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
SSM H-9851	Emissions during SCR downtime ¹	10.1	1.2	20.2	2.4	2.0	0.2	2.8	0.3	0.5	0.1	--	--
SSM T-0737	Emissions from roof landing	--	--	--	--	33.0	0.5	--	--	--	--	--	--
SSM Misc 1	Emissions from catalyst handling	--	--	--	--	--	--	1.5	<0.1	--	--	--	--

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SSM SRU3-TGI	Emissions from SRU3 startup and shutdown	6.5	<0.1	15.0	0.1	0.1	<0.1	--	--	159.0	0.4	6.5	<0.1
SSM T-0078	Emissions from roof landing and tank refilling	--	--	--	--	177.0	2.7	--	--	--	--		
SSM T-0079	Emissions from roof landing and tank refilling	--	--	--	--	306.0	4.6	--	--	--	--		
SSM T-1225	Emissions from roof landing					187.0	2.8						
SSM FL-HEP-PORT	Temporary, portable flare for natural gas pipeline maintenance	173.4	0.1	943.5	0.5	160.7	0.1	--	--	1.7	<0.1	0.02	<0.1
SSM SRU2-TGI (H-0473)	Emissions from SRU2 startup and shutdown	6.5	0.1	27.7	0.2	0.2	0.1	--	--	159.0	0.4	6.6	0.1
SSM Flare Cap	Emissions from venting SSM activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404.	162.9	18.3	1243.0	77.0	211.6	13.2	--	--	1133.4	14.9	0.4	0.1
Flares Malf Cap	Upset and Malfunction Emissions	--	10.0	--	10.0	--	10.0	--	--	--	10.0	--	--
SSM Misc 2	Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as heat exchanger repair.	17.0	1.9	127.1	7.8	21.2	1.4	--	--	129.3	1.6	0.7	0.1--
SSM Tanks Misc	Storage Tanks	--	--	--	--	112.0	10.6	--	--	--	--	0.1	0.1
Subtotal SSM/M1			31.6		98.0		46.2		0.4		27.4		0.4

During startup, shutdown, schedule maintenance or malfunction of the SCR control system, BACT for H-9851 shall be ultra-low NO_x burners emitting no more than 03 lb per MMBtu (LHV) on a hourly rolling 3-hour average basis at 3% excess oxygen. Pound per hour and tons per year limits are based on the lb/MMBtu limits and were used to demonstrate compliance with the lb/MMBtu limits and the Ambient Air Quality Standards (AAQS).

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions B. The authorization of emission limits for startup, shutdown, maintenance, and malfunction does not supersede the requirements to minimize emissions according to Conditions B101.C and B107.A.	Navajo complies with the conditions of B101.C and B107.A. Except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
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A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions C. SSM Flaring and combustion Emissions Requirement: The permittee shall comply with the flaring and combustion SSM NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emission limits at Table 107.A for the following SSM events: 1) SSM H-9851, Emissions during SCR downtime 2) SSM SRU-TGI, Emissions from SRU3 startup and shutdown 3) SSM FL-HEP-PORT, Temporary, portable flare for natural gas pipeline maintenance 4) SSM SRU2-TGI (H-0473), Emissions from SRU2 startup and shutdown 5) SSM Flare Cap, Emissions from venting SSM activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404 6) SSM Misc 2, Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as	1), 2), 3), 4), 5), and 6) Navajo obtains fuel gas analysis monthly from New Mexico Gas Company. Navajo continues to comply with these requirements except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
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heat exchanger repair. (NSR 0195M35, Condition A107.C and revised)				
Monitoring: The permittee shall monitor all flaring and combustion due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting all the SSM flaring and combustion information specified in A107C. Recordkeeping.	Navajo Environmental Department keeps an up-to-date events summary with emission units and pollutant.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: The permittee shall record the date, start and end times, and duration of every SSM flaring or combustion event. The NO _x , CO, VOC, SO ₂ , TSP, PM ₁₀ , and H ₂ S emissions shall be calculated for each event based on the volume of gas sent to the flare and the total sulfur content of the flared gas. Compliance with the hourly emission rates shall be demonstrated by calculating the hourly emission rates for each event and comparing the results to the hourly emission rate at Table 107.A. The annual emission rate shall be calculated as follows: 1) To demonstrate compliance during the first 12 months of monitoring, the permittee shall calculate and sum the monthly cumulative total of NO _x , CO, VOC, SO ₂ , TSP, PM ₁₀ , PM _{2.5} , and H ₂ S emissions; and 2) After the first 12 months of monitoring, the permittee shall	Navajo keeps records of SSM events. Maintenance scheduling is based on engineering judgment and operating experience.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

calculate and sum the total of NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emissions on a monthly rolling 12 month basis. 3) The permittee shall maintain all records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Reports required by Section B110 are submitted as necessary, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions D. SSM VOC Emissions (Facility-Wide, Non-Combustion Sources) Requirement: The permittee shall comply with the SSM VOC emission limit at Table 107.A.	Navajo complies with the requirements listed in table 107.A.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall monitor all VOC emission activities due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting VOC emission calculation information for the following SSM VOC emission activities: 1) SSM T-0737, Emissions from roof landing 2) SSM T-0078, Emissions from roof landing and tank refilling 3) SSM T-0079, Emissions from	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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roof landing and tank refilling 4) SSM T-1225, Emissions from roof landing 5) SSM Tanks Miscellaneous				
Recordkeeping: The annual SSM VOC emission rate shall be calculated as follows: 1) To demonstrate compliance during the first 12 months of monitoring the permittee shall calculate and sum the monthly cumulative total of VOC emissions; and 2) After the first 12 months of monitoring the permittee shall calculate and sum the total of VOC emissions on a monthly rolling 12 month basis, including the methodology and/or assumptions used in the calculation(s). The permittee shall keep records to demonstrate compliance in accordance with Condition B109C, except the requirement in B109.C(2) to record the start and end times of SSM events shall not apply to known quantities of VOC emissions. 3) The permittee shall maintain all records in accordance with Section B109.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions E. SSM Particulate Emissions (Unit SSM Misc 1) Requirement: The permittee shall minimize particulate emissions due to SSM events.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall monitor all particulate emissions due to routine and predictable startups, shutdowns, and scheduled maintenance events. For the event type of FCCU Catalyst Loading, the maximum material usage shall not exceed 1 hr-duration, 1 loading event/yr; and 237,048 lb/event/yr.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: For each event, the permittee shall maintain records of the duration in hours, events per year, and material usage for the particulate matter emitting SSM event - FCCU Catalyst Loading. The annual material usage shall be based on monthly rolling 12-month total. The permittee shall maintain all records in accordance with Section B109.	Catalyst loading data collected on a daily basis and maintained by the Navajo Process Engineering Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions F. SSM and Malfunction Flaring Emissions (SSM Flare Cap and Flares Malf Cap) Requirement: The permittee shall not exceed the pound per hour (pph) and ton per year (tpy) emission limits in Table A107.A and shall demonstrate compliance with these limits by calculating and summarizing these emission rates as required in recordkeeping.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: A gas flowmeter and flow totalizer, equipped with a chart recorder or electronic data logger, shall be installed in the flare line to measure and record the total standard cubic feet (scf) of all gas (process gas, purge gas, pilot gas, and supplemental fuel gas) sent to the flare during each hour and each month. The permittee shall measure the H₂S content, the total sulfur content, the VOC content, and the heating value (Btu/scf) of the gas sent to the flare for combustion. H₂S shall be measured at least once every 24-hours on each of the inlet gas types/streams using a stain tube of the appropriate size range or an inline H₂S monitor. The total sulfur content, VOC content, and heating value (Btu/scf) of the	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

natural gas sent to the flare shall be measured at least once annually with an extended gas analysis. The flow meter and flow totalizer shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings. If used, the inline monitor shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings.				
Recordkeeping: The following records shall be kept: • stain tube and/or inline H₂S measurements • annual extended gas analysis • both the hourly and monthly volume (scf) of gas sent to the flare Each month, the permittee shall record and summarize in a table format the following. • H₂S and the total sulfur content • percent VOC content • gas heating value (Btu/scf) • the maximum hourly gas flow rate (scf/hr) that occurred during the month • each hourly gas flow rate (scf/hr) for any hour(s) that exceeded any pph emission limit during the month • the total month's scf of gas sent to the flare	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

- the monthly rolling 12-month total of gas sent to each flare (scf/yr) Each month, the permittee shall record all routine and predictable startups, shutdowns, and scheduled maintenance events and shall also meet the recordkeeping requirements in General Condition B109 of this permit, except the requirement to record the start and end times of SSM events shall not apply. Records of flowmeter, totalizer, and inline monitor certifications, calibrations, documentation of the manufacturer's recommended calibration / maintenance schedule, breakdowns, reasons for the breakdown, and corrective actions taken shall be maintained. Each month, to demonstrate compliance with both the SSM and malfunction emission limits, the permittee shall calculate and summarize the maximum pph emission rate, any pph emission rate exceeding the permitted limits, and the monthly rolling 12-month total ton per year emission rates of NO_x, CO, VOC, SO₂, and H₂S for both SSM and malfunction events, using the following information: - the H₂S content, total sulfur content, VOC content, and the gas heating value (MMBtu/scf) from the most recent H₂S measurements and gas analyses - the emission factors used to				
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calculate NOx and CO - the maximum hourly gas flow rate (scf/hr) - each hourly gas flow rate (scf/hr) for any hour(s) that exceeded any pph emission limit during the month, including the dates and times of these occurrences - the monthly rolling 12-month total of gas sent to the flare (scf/yr) For each event, the permittee shall record whether the emissions are due to SSM and/or malfunction. If the emissions are due to malfunction, the permittee shall indicate whether the emissions resulting from the event are included in the amount allowed by this permit's malfunction limit or whether the event is reported under 20.2.7 NMAC.				
Reporting: The permittee shall report according to Condition B110.	Navajo complies with these requirements, Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A108 Facility: Hours of Operation A. This facility is authorized for continuous operation. Monitoring, recordkeeping, and reporting are not required to demonstrate compliance with continuous hours of operation.	No requirement.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A109 Facility: Reporting Schedules A. A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The six month reporting periods start on	Navajo submitted the requested monitoring reports as follows: 10/12/2017 04/13/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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September 1 st and March 1 st of each year.				
A109 Facility: Reporting Schedules B. The Annual Compliance Certification Report is due within 30 days of the end of every 12-month reporting period. The 12-month reporting period starts on September 1st of each year.	Navajo submitted the requested compliance certification report as follows: 09/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A109 Facility: Reporting Schedules C. In addition to the reports required by the applicable NSPS, NESHAP and MACT Subparts (including any voluntary programs referencing NSPS, NESHAP, or MACT Subparts) and by the applicable parts of 20.2 NMAC, the reporting required by the Consent Decree shall be submitted to the Department. The reports shall be submitted to the Air Quality Bureau within forty five (45) days of the end of each calendar quarter. If any reports indicate potential non-compliance with the terms of this permit, the Bureau may impose a more frequent reporting time-frame. The Department shall handle any confidential information in accordance with the provisions of 20.2.1.115 NMAC.	The Department has not requested more frequent reporting time-frames.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A109 Facility: Reporting Schedules D. Reporting required by the Consent Decree (not an exhaustive listing) (1) The permittee shall notify the Department's Enforcement Section, Air	Navajo submitted the Annual NOx Control Technology report as follows: 12/28/2017	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Quality Bureau in writing of the annual progress of installation of NOx Control Technology required by Paragraph 16 of the Consent Decree. The report shall be submitted to the EPA and the NMED on or before December 31st of each calendar year commencing with the year 2002. (CD ¶16.E) (2) No later than forty-five (45) days following the end of an AG Flaring or TG Incident, the permittee shall submit to EPA and the NMED a report that sets forth the items detailed in the Consent Decree. (CD ¶20, CD¶21)				
A110 Facility: Fuel and Fuel Sulfur Requirements (as Required) A. Fuel, Fuel Sulfur, and NSPS J, Ja Sulfur Requirements (See Tables 103.E, H, I, & K, Summary of Applicable Requirements) Requirement: (NSR 0195M35, Condition A110.A and revised) (1) To comply with NSPS Subpart J, NSPS Subpart Ja, and the PSD BACT requirements in Section 106, the permittee	Refinery fuel gas is continuously monitored for H2S content on a 3-hour rolling average. Exceedances are reported on Navajo's Subpart J and Subpart Ja semiannual reports.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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shall install, calibrate and maintain a continuous monitoring system (CMS) to continuously measure and record either the hydrogen sulfide (H₂S) in the refinery fuel gas streams being burned in the Heaters and Boilers or the concentration of sulfur dioxide emissions to the atmosphere. (2) All stationary combustion equipment shall be fired with NSPS quality fuel gas with a maximum H₂S content of 0.1 grains/dscf (approx. 162 ppmv), based on a hourly rolling 3-hour average. (3) All stationary combustion equipment shall not combust gas with an annual average sulfur content exceeding 60 ppmv (approx. 0.037 grains) as a daily rolling 365-day average. (4) All stationary combustion equipment shall be affected facilities, as defined in NSPS 40 CFR Part 60, Subparts A and J or Ja, if refinery-produced fuel gas is combusted in the heaters and boilers, and shall comply with all applicable requirements of NSPS Subparts A and J or Ja. (See Table 103.E, Summary of Applicable Requirements)				
Monitoring: (1) The permittee shall install, certify, calibrate, maintain and operate a fuel gas continuous monitoring system (CMS) at	1) CMS has been installed and is certified, calibrated and maintained.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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the fuel gas mix drum outlet in accordance with the requirements of 40 CFR §§ 60.11, 60.13, and Part 60 Appendix A, and the applicable performance specification of 40 CFR Part 60 Appendices B and F. (2) The following CMS shall be certified initially and recertified annually: • D-0019 Low Pressure Fuel Gas H₂S CMS • D-0770 High Pressure Fuel Gas H₂S CMS (3) As required by the EPA-approvable alternative monitoring procedure (AMP), CCR off-gas streams that enter the refinery fuel gas system downstream of the H₂S CMS shall be monitored quarterly for H₂S using gas detector tubes or an equivalent method as follows: (a) CCR stabilizer off gas stream, (b) H₂ recycle gas stream, and c) CCR feed stream.	2) CMS annual RATAs were completed as follows: D-0019 Low Pressure Fuel Gas H₂S 2/15/2018 D-0770 High Pressure Fuel Gas H₂S 2/15/2018 3) The CCR stabilizer off gas, the H₂ recycle gas and the CCR feed streams are analyzed a minimum of quarterly.			
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subparts A, J, and Ja. (1) Records of the quantity of the refinery fuel gas and the monthly average heating value of the refinery fuel gas. This is used to demonstrate compliance with lb/mmBTU and lb/hr limits shown in Table 106.A. (permit limit) (2) Records of repairs, maintenance, and calibrations performed for the instruments that measure flow or	1) Fuel records are maintained in Pi. 2) Repair, maintenance, and calibration records are maintained by Navajo Instrument and Electrical Department. 3) CCR off-gas stream analysis records are maintained in the Navajo Environmental Department Files (REF.ART.3.J.05.A).	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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concentration for an applicable permit limit shall be kept. Examples include, but are not limited to, CMS, acid gas flow meters, and fuel gas flow meters. (40 CFR 60, Appendix F) (3) Records shall be kept of Alternative Monitoring Plan (AMP) H ₂ S analyses of the CCR off-gas streams that enter the refinery fuel gas system downstream of the fuel gas H ₂ S CMS. (NSPS J or Ja)				
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subparts A, J, and Ja, and Section B110.	Reports required by Subpart A are submitted semiannually. Reports required by Subparts J, Ja, and Section B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A111 Facility: 20.2.36 NMAC A. Facility: 20.2.36 NMAC Requirement: 20.2.36 NMAC (Petroleum Refinery - Sulfur, 11/30/95) applies to the refinery as a whole. Quarterly refinery-wide sulfur balance reports shall be filed in accordance with 20.2.36.113 NMAC. All flares and stacks shall meet the applicable height requirements of 20.2.36.114 NMAC as demonstrated through air dispersion modeling done at the time of unit installation. (NSR 0195M35, Condition A111.A)	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Quarterly monitoring of refinery-wide sulfur balance.	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall keep record of a copy of the Facility-Wide Sulfur Balance Report and the actual	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

height of flares and stacks.				
Reporting: The permittee shall report in accordance with 20.2.36.113A NMAC.	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☒ Continuons ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A112 Facility: 20.2.37 NMAC A. 20.2.37 NMAC Requirement: (NSR 0195M35, Condition A112.A) (1) Section 200.A (Mercaptans) and section 200.B (Hydrogen Sulfide) apply to mercaptan and H ₂ S emissions from the refinery. Section 200.C applies to FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404 and requires an alarm in good working order to signal non-combustion of the gas. (2) Section 201.A (CO), applies to the refinery's FCC regenerator stack. The owner or operator of an existing petroleum processing facility shall not permit, cause, suffer or allow carbon monoxide emissions to the atmosphere from a catalyst cracking recirculation or regeneration unit in excess of 20,000 ppm by volume in the undiluted effluent gas stream or streams. (3) Section 202.C(1) (PM), The owner or operator of a new petroleum processing facility shall not permit, cause, suffer or allow particulate matter emissions to the atmosphere from the catalytic cracking regenerator vessel in excess of 1.0 Kg/1000 Kg (1.0 lb/1000 lb) of coke	1) All flares have alarms indicating loss of flame that are in good working order. 2) The FCC catalyst regenerator exhaust is continously monitored for CO. 3) The catalytic cracking regenerator is tested annually for PM. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9. 4) There are no process vents to the atmosphere, so the refinery is not expected to emit ammonia. Any trace ammonia emissions are expected to comply with the 25-ppm limit. 5) Navajo continues to comply with the applicable requirements of NSPS Subpart QQQ at refinery oil/water seperators. The oil/water separator is inspected at least semi-annually, and the carbon vapor control is tested at least monthly. 6) Blowdowns are accomplished by venting to flares that are designed to be operated smokelessly. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

burnoff or visible emissions of thirty percent (30%) opacity or greater except for one six-minute average opacity reading in any one-hour period. (4) Section 203 (Ammonia, undiluted emissions ≤ 25 ppmv) applies to all emission points of the refinery. The owner or operator of a petroleum processing facility shall not permit, cause, suffer or allow ammonia emissions to the atmosphere in excess of 25 ppm by volume in the undiluted effluent gas stream or streams. (5) Section 204 (Hydrocarbon Separation Facility) applies to all oil/water separators at the refinery. Compliance with this condition is met by complying with the applicable NSPS Subpart QQQ requirements. (6) Section 205 (Facilities - Storage - Handling - Pumping - Blowdown System) applies to certain of the following: storage tanks for organic compounds, loading and unloading of organic compounds, seals on pumps and compressors, and disposal (flaring) of hydrocarbon gases. The permittee shall not permit, cause, suffer or allow the operation of a blowdown system without disposing of the gases in a manner which will minimize hydrocarbon emission to the atmosphere. If combustion is the means of disposal, it shall be by: smokeless flare; or any other method that is equally effective to achieve complete				
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combustion. (20.2.37.205.E NMAC) Monitoring: (1) For Units FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404: The permittee shall install and maintain a flare pilot flame monitoring system. (20.2.37.200.A.2 NMAC) (2) A CO CMS has been installed to monitoring the emissions from the FCC. (3) The annual EPA Method 9 Opacity Test and annual Stack test on Unit FCC (lb/hr PM emissions) and the calculated Coke burn rate will be used for the annual determination of pounds of PM per 1000 pounds of Coke burned. (4) None (5) No additional monitoring since compliance is met by complying with the applicable NSPS Subpart QQQ requirements. See other conditions of this permit for applicable NSPS or MACT requirements. (6) Compliance is demonstrated through NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns. Recordkeeping: (1) Pilot flame monitoring records (2) CO CMS measurements	1) All flares have alarms indicating loss of flame that are in good working order. 2) The FCC catalyst regenerator exhaust is continuously monitored for CO. 3) The catalytic cracking regenerator is tested annually for PM. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9. 4) Not monitoring requirement. 5) Navajo continues to comply with all requirements except for specific deviations as noted elsewhere in this document. 6) Navajo continues to comply with all applicable requirements except for deviations previously reported or identified at the end of this report. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016. 1) Records are maintained in Pi. 2) Records are maintained in Pi. 3) Stack test reports are maintained by the Navajo	☒ Continuous ☒ Intermittent ☒ Continuous ☒ Intermittent	☒ Yes ☐ No ☒ Yes ☐ No	☐ Yes ☒ No ☐ Yes ☒ No
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(3) Copy of annual coke burn rate determination, stack test report, and opacity test report (4) None (5) Applicable NSPS Subpart QQQ requirements (6) Applicable NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns requirements	Environmental Department. 4) No recordkeeping requirement. 5) NSPS QQQ reports are maintained by the Navajo Environmental Department. 6) NSPS K, NSPS Ka, NSPS Kb, NSPS GGGa, NSPS J, NSPS Ja, and MACT CC reports are maintained by the Navajo Environmental Department. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016.			
Reporting: The permittee shall report in accordance with applicable NSPS or MACT requirements and Section B110.	NSPS J, Ja, GGGa, QQQ, and MACT CC reports are submitted semiannually. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A113 Facility: 20.2.38 NMAC A. 20.2.38 NMAC Requirement: 20.2.38 NMAC (Hydrocarbon Storage Facilities, 11/30/95) applies to the refinery as follows: 1. Section 109 (Tank Storage Associated with Petroleum Production or Processing Facility [Sour Hydrocarbon Liquids]) applies to the loading and storing of hydrocarbons containing H₂S. 2. Section 110 (Tank Battery or Storage Facility - Within Municipality [Sour	1) The Artesia Refinery includes storage vessels that store hydrocarbons containing hydrogen sulfide. The vessels comply with the requirements of 20.2.38.109 by using submerged fill. 2) and 3) The vessels comply with the requirements of 20.2.38.110 and 113 by using internal or external floating roofs with the required seals.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Hydrocarbon Liquids]) applies to certain tanks storing sour hydrocarbon liquids whose vapors contain ≥ 24 ppm H ₂ S. 3. Section 113 (New Tank Battery and the Pecos-Permian Interstate Air Quality Control Region [Sour Hydrocarbon Liquids]) applies to certain tanks storing sour hydrocarbon liquids whose vapors contain ≥ 24 ppm H ₂ S. (NSR 0195M35, Condition A113.A)				
Monitoring: 1. None 2. and 3. Demonstrated through NSPS K, Ka, Kb, and MACT CC floating roof seal inspection.	2) and 3) Navajo Inspection Department performs seal inspections and maintains those records.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: 1. Records of Tank design showing inlet piping connections. 2. and 3. No additional requirements other than applicable requirements of NSPS and MACT.	1) Records of tank designs are maintained in the Navajo Engineering Library. Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A118 Facility: MACT Subpart UUU A. 40 CFR 63, Subpart UUU FCC, FUG-70-CCR, SRUs 1, 2, and 3 Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart UUU, National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking	For the FCC, Navajo monitors and records the daily average coke burn rate and of the continuously monitored CO emissions. For the CCR, Navajo monitors and records the weekly average ChlorSorb catalyst inlet and outlet chloride content, the ChlorSorb inlet and outlet temperatures, and the CCR firebox temperature. For the SRUs, Navajo monitors and records the SO ₂ concentration from the tail gas incinerators.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Units, Catalytic Reforming Units, and Sulfur Recovery Units, for all affected sources shown in Tables 103H&I attached. (63.1560 and 63.1570).				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart UUU.	For the FCC, Navajo monitors and records the daily average coke burn rate and of the continuously monitored CO emissions. For the CCR, Navajo monitors and records the weekly average ChlorSorb catalyst inlet and outlet chloride content, the ChlorSorb inlet and outlet temperatures, and the CCR firebox temperature. For the SRUs, Navajo monitors and records the SO2 concentration from the tail gas incinerators.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart UUU.	Process records are maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart UUU.	Reports required by Subpart UUU were submitted semiannually as follows: 1/30/2018 7/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A119 40 CFR 61 Subpart FF. National Emission Standard for Benzene Waste Operations A. 40 CFR 61 Subpart FF, National Emission Standard for Benzene Waste Operations (Units subject in Table 103.C & G) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 61, Subpart FF, National Emission Standard for Benzene Waste Operations for the affected sources in Tables 103.C, G.	The refinery complies with the applicable requirements of NESHAP Subpart FF. Because the refinery's total annual benzene (TAB) quantity is less than 10 Mg/yr, none of the standards in this regulation apply.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply	The refinery complies with the applicable	☐ Continuous	☒ Yes	☐ Yes

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with the applicable monitoring and testing requirements of 40 CFR 61, Subpart FF.	requirements of NESHAP Subpart FF. Because the refinery's total annual benzene (TAB) quantity is less than 10 Mg/yr, none of the standards in this regulation apply.	☒ Intermittent	☐ No	☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 61.356.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 61.357.	Navajo submitted the annual TAB report. 04/06/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines A. Maintenance and Repair Monitoring (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901; Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901) Requirement: These units are subject to Title V since they are subject to NSPS and/or MACT requirements. No emission limits were established since their emissions are small. The permittee shall ensure these units are properly maintained and repaired.	Navajo complies with MACT Subpart ZZZZ. Unit M-8010 was installed 11/04/2013. The engine was operated a total 0.0 hours during the reporting period.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events: (1) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period. (2) Unscheduled repairs that require a unit	Navajo complies with MACT Subpart ZZZZ. 1) and 2) Unit M-8010 operating hours are monitored. the unit was not taken out of service greater then two hours in any twenty-four hour period.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

to be taken out of service for more than two hours in any twenty-four hour period.				
Recordkeeping: The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.	Navajo complies with MACT Subpart ZZZZ. Unit M-8010 is equipped with a non-resettable run-time meter. Navajo keeps quarterly rolling annual total hours on file.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines B. 40 CFR 63, Subpart ZZZZ (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901) (Units subject in Table 103.J) Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 63, Subpart ZZZZ and the permittee shall comply with all applicable requirements of Subpart A and Subpart ZZZZ.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart A and Subpart ZZZZ.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart ZZZZ, including but not limited to 63.6655 and 63.10.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart A and ZZZZ, including but not limited to 63.6645, 63.6650, 63.9, and 63.10.	Reports required by Subpart ZZZZ were submitted semiannually as follows: 1/30/2018 7/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines C. 40 CFR 60, Subpart IIII (Diesel Engines subject in Table 103.J) Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 60, Subparts A and IIII and shall comply with the notification requirements in Subpart A and the specific requirements of Subpart IIII.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4211.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with all applicable reporting requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks A. NSPS Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which	Navajo continues to comply with the applicable requirements of NSPS Subpart K, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations in previously submitted reports.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 (Tanks subject in Table 103.C)	External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.			
Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & K for the affected sources in Table 103.C.				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart K.	Navajo continues to comply with the applicable requirements of NSPS Subpart K, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations in previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart K.	External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart K.	Navajo submits notifications of seal inspections to the Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks B. NSPS Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 (Tanks	Navajo continues to comply with the applicable requirements of NSPS Subpart Ka, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations in previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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subject in Table 103.C) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Ka for the affected sources in Table 103.C.	maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.			
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ka.	Navajo continues to comply with the applicable requirements of NSPS Subpart Ka, as applicable to the affected storage tanks shown in Table 103C of this permit, except for inspections listed as deviations in previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ka.	External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The true vapor pressure is based on the material stored and maximum historical data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ka.	Navajo submits notifications of seal inspections to the Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks C. NSPS Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984" (Tanks subject in Table 103.C) Requirement: The permittee shall comply	Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the processes shown in Table 103 B, C, D, G, except for deviations previously reported or identified at the end of this report. Fugitive components subject to these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. Navajo continues to comply with the applicable	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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with all applicable requirements of 40 CFR 60, Subparts A & Kb for the affected sources in Table 103.C.	requirements of MACT Subpart CC as applicable to the affected storage tanks, except for inspections listed as deviations in previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The loading rack subject to portions of MACT Subpart R incorporated by reference into MACT CC is equipped with a carbon adsorption system monitored by a CMS.			
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Kb.	Fugitive components subject to these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. The loading rack subject to portions of MACT Subpart R incorporated by reference into MACT CC is equipped with a carbon adsorption system monitored by a CMS.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Kb.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Kb.	Navajo submitted Subpart CC reports semiannually as follows: 2/28/2018 8/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks		☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
D. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Tanks subject in Table 103.C)	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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for Hazardous Air Pollutants from Petroleum Refineries” for all affected sources shown in Table 103.C attached. (63.640).				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2018 8/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks E. Tank Throughput, Temperature, and VOC and H ₂ S Limits (Units shown in Tables 106.B & C) Requirement: Compliance with the allowable throughput limits and emission limits in Table 106.D & E shall be demonstrated by not exceeding the monthly rolling 12-month total throughput to the unit(s) of gallons per year (barrels/year) shown in Table 106.D and not exceeding the allowable vapor pressure listed in Tables 106.B & C.	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall monitor the monthly total throughput, maximum	Navajo complies through Pi data.	☒ Continuous	☒ Yes	☐ Yes

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temperature once per month and the vapor pressure of each tank.		☒ Intermittent	☐ No	☒ No
Recordkeeping: The permittee shall record the monthly total throughput of liquids and the vapor pressure of each tank. Each month, during the first 12 months of monitoring, the permittee shall record the cumulative total liquid throughput and vapor pressure and after the first 12 months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total liquid throughput and the vapor pressure of each tank. The permittee has calculated the VOCs and H₂S annually based on the 12-month total. Tank breathing and working emissions were calculated using the USEPA Tanks program Version 4.0.9.d or more current. Emission rates computed using the same parameters, but with a different Department approved algorithm that exceed these values will not be deemed non-compliance with this permit. Records shall also be maintained in accordance with Section B109.	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A204 Heaters/Boilers A. Operational Inspection (All heaters/boilers in Tables 103.E & 104.A) Requirement: Compliance with the allowable emission limits in Table 106.A shall be demonstrated by performing periodic inspections to ensure proper operations.	Inspections were performed to ensure proper operation.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct annual operational inspections to determine that the heater(s)/boiler(s) are operating properly. The operational inspections shall include operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the heater/boiler manufacturer, and indications based on operational experience with the/these unit(s).	Inspections were performed to ensure proper operation.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the heater(s)/boiler(s) into compliance. The permittee shall maintain records in accordance with Section B109.	Inspection results are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall report in accordance with Section B110. Within ninety (90) days of permit issuance, the permittee shall submit for Department approval a procedure which the permittee will use to carry out the operational inspections. The permittee may at any time submit revisions for Department approval.	Navajo submitted MACT Subpart DDDDD reports semiannually as follows: 1/30/2018 7/30/2018	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers B. Periodic Emissions Tests (Units Heaters H-0019, H-0020, H-0362, H-0363, H-0364, H-2421, H-3402, and H-3403) Requirement: Compliance with allowable emission limits in Table 106.A shall be demonstrated by performing periodic emissions tests. (NSR 0195M35, Condition A204.A, revived)	Testing was performed as follows: H-0019 01/11/2018 H-0020 01/11/2018 H-0362 01/31/2018 H-0363 01/31/2018 H-0364 01/31/2018 H-2421 03/20/2018 H-3402 01/31/2018 H-3403 02/01/2018 All heaters were within allowable emission limits.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct annual periodic portable analyzer emission tests or EPA Reference Method Tests for NO_x and CO. Test results that demonstrate compliance with the CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits. Section B108 General Monitoring Requirements apply to this condition. The permittee shall meet the testing requirements in Section B111.	Testing was performed as follows: H-0019 01/11/2018 H-0020 01/11/2018 H-0362 01/31/2018 H-0363 01/31/2018 H-0364 01/31/2018 H-2421 03/20/2018 H-3402 01/31/2018 H-3403 02/01/2018 All heaters were within allowable emission limits.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Recordkeeping: Records of periodic emission tests shall include the flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure NO_x, CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results. Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.	Periodic emission test results are maintained by Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for NO_x and CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.	All testing reports were submitted to the NMED at <stacktest.aqb@state.nm.us>.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers C. Summary of Compliance Methods for Heaters and Boilers for Table 106.A, 20.2.33 NMAC, 20.2.37 NMAC (Boilers and Heaters in Tables 103.E and 104.A) Requirement: (NSR 0195M35,	Navajo complies with these requirements, except for deviations previously reported or identified at the end of this report.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

Condition A204.B) (1) Demonstrate compliance with Table 106.A Allowable Emissions. (2) 20.2.33 NMAC (Gas Burning Equipment – Nitrogen Dioxide, 10/31/02) applies to existing and new gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year. It applies to process heaters identified in Tables 103.E and 104.A. These units shall be equipped with burners emitting less than 0.2 lb NOx per MM Btu. Compliance with 20.2.33 NMAC is demonstrated by compliance with the NOx lb per MM Btu limits in Table A106.A.				
Monitoring: (1) The permittee shall monitor the fuel usage of the all boilers and heaters. The fuel usage shall be monitored for specific heaters and boilers subject to 20.2.33 NMAC. (2) For specific heaters and boilers subject to 20.2.33 NMAC, the permittee shall collect and analyze samples of the refinery fuel gas at least once per week. The refinery fuel gas analysis shall include the composition of the refinery fuel gas, the gross heating value, and the net heating value. (3) See Condition A110.A for H₂S monitoring requirements. (4) All process heaters and boilers shall fire only refinery gas in accordance with	1) Fuel use measured by Pi. 2) Refinery fuel gas is analyzed at least once per week. 3) Refer to response for Section A100.A 4) No combustion sources fire only purchased gas. 5) The following combustion sources have CMS that are recertified annually as follows: B-0007 03/06/2018 B-0008 03/07/2018 B-0009 03/07/2018 H-9851 03/20/2018 H-2501 01/10/2018 6) Test results referenced in Condition A104.B meet this requirement. 7) Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Application, Section 2, Table 2-J. (5) For those combustion sources required to have a continuous monitoring system (CMS) (listed in (a) below), the permittee shall install, certify, calibrate, maintain, and operate the CMS for each required pollutant in accordance with the applicable requirements of 40 CFR 60 or 63. The hourly average CMS data, the refinery fuel gas usage data, and the refinery fuel gas composition data shall be used to estimate the actual emission rates. (a) The following CMS shall be recertified annually: • Boiler B-0007 NO_x and O₂ CMS • Boiler B-0008 NO_x and O₂ CMS • Boiler B-0009 NO_x and O₂ and CO₂ CMS • H-9851 NO_x O₂ CMS • H-2501 NO_x O₂ CMS (6) For those combustion sources required to conduct periodic stack exhaust testing as stated in Condition A204.B, the test reports shall be used to demonstrate compliance with the NO_x, CO, and VOC limits in Table 106.A. (7) For those units and pollutants that are not required to have a CMS or a periodic stack test, (Units H-009, H-0011, H-0018, H-0028, H-0030, H-0040, H-0303, H-0312, H-0352, H-0353, H-0354, H-0355, H-0421, H-0464, H-0473, H-0600,	8) Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016.			
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H-0601, H-8801, H-8802, and H-3101) the permit application emission factor, the fuel usage, and the refinery fuel gas analysis shall be used to calculate the emission rates of NO_x, CO, VOC, and PM. (8) Compliance with the particulate emission limitation set forth in 20.2.37.202.A NMAC shall be determined as specified in 20.2.37.202.D(3) NMAC. Combustion of only gaseous fuel has been approved by the Department as the compliance method under 20.2.37.202.D(3) NMAC.				
Recordkeeping: The permittee shall maintain the following records: (1) By March 31, the annual fuel usage for all boilers and heaters for the previous calendar year. (2) By March 31, the average fuel composition and heating value for all boilers and heaters for the previous calendar year. (3) For those units required to have a CMS (B-0007, B-0008, B-0009, H-9851 and H-2501), the CMS hourly average data. (4) For those units required to conduct periodic stack exhaust testing, the periodic test report. (5) For all boilers and heaters, a summary spreadsheet shall be maintained comparing the actual annual emissions with the allowable emission limits expressed in	1) Fuel usage records are maintained in Pi. 2) Fuel composition records are maintained in Pi. 3) CMS data is maintained on Pi. 4) Test reports are maintained by Navajo Environmental Department. 5) The summary spreadsheet is included in the Emission Inventory.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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tons per year and lb/MMBtu using the appropriate method of compliance demonstration. This spreadsheet shall be updated by March 31 of each year for the previous calendar year.				
Reporting: The permittee shall report in accordance with Sections B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers D. Consent Decree NO _x Emission Limits for Boilers B-0007, B-0008, and B-0009 (new as of 2013) Requirement: (NSR 0195M35, Condition A204.C) (1) In accordance with the Consent Decree lodged December 20, 2001, NO _x emissions from boilers B-0007 (no later than December 31, 2002), B-0008 (no later than December 31, 2003), and B-0009 (new as of 2013) shall not exceed the limit in Table 106.A during any hourly rolling 3-hour period. Demonstration of compliance with the NO _x limit for B-0007, B-0008, and B-0009 shall be established by averaging the CMS Data over any 3-hour period and comparing the average concentration to the parametric limit of ≤ 42.1 ppm NO _x , corrected to 6.1% O ₂ as determined by the CMS. (CD¶16.D) This also satisfies the requirement in 20.2.33.108.A NMAC that NO _x emissions	1) Data maintained in Pi. 2) No requirement.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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shall not exceed 0.2 lb/MMBTU. (2) Navajo is authorized to operate all three boilers (B-0007, B-0008, and B-0009) simultaneously as needed.				
Monitoring: For the Controlled Boilers (B-0007, B-0008) as listed in the Consent Decree and B-0009 (new as of 2013), continuous compliance with their respective NO _x permit emissions limits shall be demonstrated by monitoring as follows: (CD¶16.C) (1) For boilers (B-0007, B-0008, and B-0009) with a heat input capacity greater than 150 MMBTU/hr of HHV, the permittee shall install or continue to operate CMS to measure NO _x and O ₂ . Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specification test of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable; (CD¶16.C.i)	1) B-0007, B-0008, & B-0009 have CMS installed and data maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall keep records of the CMS recertification's monitored in Condition A204.B, Summary of Compliance.	CMS recertifications are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall report in accordance with Section B110.	All testing reports were submitted to the NMED at <stacktest.aqb@state.nm.us>.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers E. NO _x Monitoring and Testing for Controlled Heaters Subject to the Consent Decree (Units H-0020, H-0352, H-0353, H-0354, H-0600, and H-0601) Requirement: For the Controlled Heaters as listed in the Consent Decree, continuous compliance with all NO _x emissions limits shall be demonstrated by monitoring as follows. (CD¶16.C) (NSR 0195M35, Condition A204.D)	CMS installed and data maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: (1) For heaters with a heat input capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV), Navajo shall (a) install or continue to operate CMS to measure NO _x and O ₂ by no later than the date of the installation of the applicable NO _x Control Technology on the heater or boiler; or (b) submit for EPA approval, by no later than 60 days after the date of installation of the applicable NO _x Control Technology on the heater or boiler, a proposal for monitoring based on operating parameters, including but not limited to, firebox	1) H-9851 is equipped with NO _x and O ₂ CMS that is certified, calibrated, maintained and operated in accordance with the referenced requirements. 2) Referenced heaters meet these requirements. All initial performance tests have been reported. 3) Referenced heaters were initially tested and are tested annually. H-0601 is monitored weekly using a handheld portable analyzer.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

temperature, air preheat temperature, heat input rate, and combustion O₂. Navajo shall evaluate the necessity of using firebox or bridgewall temperatures and additional operating parameters and agrees to use such parameters as a means of monitoring performance where Navajo and EPA mutually-agree to their effectiveness. (CD¶16.C.ii). As of January 23, 2014 (notarized date of application), there are no heaters or boilers at the Artesia Refinery with a capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV) subject to Monitoring requirement (1). (2) For heaters with a heat input capacity of equal to or less than 100 MMBTU/hr of HHV, the permittee shall conduct an initial performance tests for NO_x. The results of these tests shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. (CD¶16.C.iii). This condition applies to the following heaters: • Heaters H-0352, H-0353, and H-0354 • Heater H-0020 • Heaters H-0600 and H-0601 The permittee has completed all of the initial performance tests.				
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(3) For heater H-0601 compliance shall be demonstrated by continuously monitoring stack oxygen (O ₂) to maintain a 3-hour average below 6.0 vol%. As a further check of compliance, Navajo shall monitor stack NOx at least twice a month using a portable analyzer to assure that the measured NOx value does not exceed the compliance threshold of 38 ppmv NOx. (CD¶16.C.iii)				
Recordkeeping: (1) The permittee shall keep records of the Fuel firing rates and Sulfur limits monitored for Condition A110.A. (2) The permittee shall keep records of the initial performance tests. (3) The permittee shall keep records of the stack oxygen monitoring and the portable analyzer tests.	1) Fuel firing rate records are maintained in Pi. 2) and 3) Test records are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110. Condition B.111.D(7) does not apply to portable analyzer tests.	Reports required by B110 are submitted as applicable.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers F. NOx Monitoring and Testing for Heaters permitted after the Consent Decree (Units Heaters H-0019, H-0362, H-0363, H-0364, H-2421, H-3402, H-3403, H-2501, H-8801/8802, and H-9851) Requirement: For the Heaters permitted after the Consent Decree, continuous compliance with their respective NOx	Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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permit emissions limits in Table 106.A shall be demonstrated by monitoring as follows. (NSR 0195M35, Condition A204.E)				
Monitoring: (1) For heaters with a heat input capacity greater than 150 MM Btu/hr (LHV Basis), the permittee shall install and operate CMS to measure NO_x and O₂ by the startup date of each heater. Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specifications of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable. Condition A204.F(1) applies to heater H-9851. (2) For heaters with a heat input capacity of equal to or less than 150 MM Btu/hr (LHV) but greater than 100 MM Btu/hr (LHV), Navajo shall: (a) install and operate CMS to measure NO_x and O₂ by the startup date of each heater; or (b) submit to the Permit Program Manager for NMED approval, by no later than 90 days after the startup date of each heater, a proposal for	1) H-9851 has a CMS installed and data maintained in Pi. 2) H-2501 & H-8801/8802 has a CMS installed and data maintained in Pi. 3) Initial performance tests were completed as required. 4) Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

monitoring based on operating parameters. Operating parameters to consider include, but are not limited to, firebox temperature, air pre-heat temperature, heat input rate, and combustion O₂. Navajo agrees to use such parameters as a means of monitoring performance. Condition A204.F(2) applies to heaters H-2501 and H-8801/8802 (3) For heaters with a heat input capacity of equal to or less than 100 MM Btu/hr (LHV basis), the permittee shall conduct an initial performance test by no later than 180 days after the startup date. The results of this test shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. This condition applies to the following heaters: • Heaters H-0362, H-0363, H-0364, and H-2421 • Heater H-0019 • Heaters H-3402 (AMP approved by EPA, see (4)) , initial performance test completed on July 10, 2013 • Heater H-3403, initial performance test completed on April 30, 2013 (4) US EPA has approved an Alternative				
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Monitoring Plan (AMP) for Unit H-3402 for utilizing the oxygen monitor on the H-3402 Unit 34 Hydrocracker Reboiler 1 as a parametric means for demonstrating compliance with NSPS Ja, NO_x monitoring via a CMS. In accordance with the AMP, the permittee shall accomplish the following: (a) Install flow indication on the fuel line to provide historical data of the fuel to the Mild Hydrocracker (Unit 34) by January 1st, 2015. (b) Monitor the process historical data of the HEP purchased natural gas pressure, and the high pressure fuel balance drum (D-0770). (c) Upgrade the existing the Mild Hydrocracker (Unit 34) Reboiler Heater (H-3402) oxygen monitor to perform daily calibrations as required in 40 CFR60.13(d)(1). (Note that the sample placement does not conform to CMS requirements for process reasons). (d) Conduct biennial performance tests according to the requirements in 40CFR 60.104a(i). (e) Establish a maximum or curve excess O₂ operating limit – (MOPV) as required under 40 CFR60.107a(c)(6) utilizing the existing monitor. (f) Include Reboiler Heater (H-3402)				
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hours of refinery fuel gas usage and any deviations during such time as required by 40 CFR 60.7 for periodic reporting.				
Recordkeeping: (1) The permittee shall keep records of the monitoring proposals submitted to the Permit Program Manager for approval and whether the submittal was approved. (2) The permittee shall keep records of the CMS data, calibration, and recertification's monitored in Condition A204.A, Summary of Compliance. (3) The permittee shall keep records of the performance tests. (4) The permittee shall keep records of the implementation of the AMP and all required monitoring specified in the AMP.	1) Records are maintained by the Navajo Environmental Department. 2) CMS data maintained in Pi. 3) Performance tests are maintained by the Navajo Environmental Department. 4) the AMP is maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as applicable.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers G. NSPS Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (Boilers and heater subject in Table 103.E) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Db (NO _x -60.44b, SO ₂ -60.42b, & PM-60.43b) for the	Heater H-2501 and Boilers B-0007, B-0008, and B-0009 each have a NO _x CEMS as required by NSPS Subpart Db.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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affected sources in Table 103.E.				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.48b, Subpart Db.	Heater H-2501 and Boilers B-0007, B-0008, and B-0009 each have a NOx CEMS as required by NSPS Subpart Db.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.49b, Subpart Db.	NOx records are maintained in Pi. Test records are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.49b, Subpart Db.	Navajo submitted NSPS Subpart Db reports semiannually as follows: 1/30/2018 7/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.45b and 60.46b.	Navajo complies with the requirements of the Compliance Testing.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers H. NSPS Subpart Dc, Standards of Performance for <u>Small Industrial-Commercial - Institutional</u> Steam Generating Units (Boilers and heater subject in Table 103.E.) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Dc (NOx-60.44c, SO ₂ -60.42c, & PM-60.43c) for the affected sources in Table 103.E.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.47c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.48c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.48c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.44c and 60.45c.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers I. NSPS Subpart J, Standards of Performance for Petroleum Refineries (Boilers and heater subject in Table 103.E) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & J for the affected sources in Table 103.E.	Navajo continues to comply with the applicable monitoring requirements of NSPS Subpart J as applicable to the affected heaters, boilers, SRU1/SRU2, and the FCC shown in Table 103E. The refinery fuel gas is continuously monitored for H2S content on a 3-hour rolling average basis. The SRU1/SRU2 tail gas incinerator is continuously monitored for SO2 content, corrected to 0% O2, on a 12-hour rolling average basis. The FCCU Catalyst Regenerator Scrubber exhaust is continuously monitored for SO2 and CO. PM is monitored annually. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply	All of the continuous monitors are operated,	☒ Continuous	☒ Yes	☐ Yes

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with the applicable monitoring and testing requirements of 40 CFR 60, Subpart J.	maintained, and certified as required.	☒ Intermittent	☐ No	☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart J.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart J.	Navajo submitted NSPS Subparts J reports semiannually as follows: 1/30/2018 7/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A204 Heaters/Boilers J. NSPS Subpart Ja, Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007 (Boilers and heater subject in Table 103.E) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Ja for the affected sources in Table 103.E.	Navajo continues to comply with the applicable monitoring requirements of NSPS Subpart Ja as applicable to the affected heaters, SRU3, and flares as shown in Table 103E. The refinery fuel gas is continuously monitored for H2S content on a 3-hour rolling average basis. The flares met the minimum heating value, tip velocity, and visible requirements as documented by the compliance testing detailed in previous responses. The SRU3 tail gas incinerator is continuously monitored for SO2 content, corrected to 0% O2, on a 12-hour rolling average basis.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ja.	All of the continuous monitors are operated, maintained, and certified as required.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ja.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ja.	Navajo submitted NSPS Subparts Ja reports semiannually as follows: 1/30/2018 7/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers K. BACT NOx Limit, Continuous Monitoring System (CMS) (Unit B-0009) Requirement: The permittee shall comply with the allowable emission limits in Table 106.A and Condition A106.E that represent NOx BACT limits for the BACT requirements. (NSR 0195M35, Condition	Navajo complies with the BACT requirements for B-0009, except for deviations previously reported or identified at the end of this report.	☒ Continuous ☐ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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A204.I and revised)				
Monitoring: (1) The Permittee shall comply with the CMS monitoring as detailed in Condition A204.D. (2) The permittee shall conduct an EPA Method test within six (6) months of permit issuance using EPA reference test methods in 40 CFR 60 for NO _x and O ₂ and CO ₂ . Data from the CMS RATA testing may be used to satisfy this testing requirement.	1) Navajo complies with Conditon A204.D. 2) B-0009 went into service on 4/14/2015. The initial RATA compliance test was completed on 11/06/2015, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: (1) The permittee shall keep records of the CMS initial calibration and recertification monitored in Condition A204.B, Summary of Compliance. (2) Records of EPA Methods tests shall be maintained for the Boiler.	1) Navajo complies with A204.B. 2) The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: (1) The permittee shall report in accordance with Section B110, to include the CMS initial calibration and recertification. (2) The permittee shall summarize in tabular form the results of the EPA Methods tests for NO _x and O ₂ and CO ₂ , specifying the emissions rates in pounds per hour and lb/MMBtu. The table shall include the average concentration of all relevant pollutant species.	1) Navajo complies with B110. 2) The initial compliance test was completed on 11/06/2015, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A204 Heaters/Boilers L. MACT Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters (Boilers and heater subject in Table 103.E) Requirement: The units are subject to 40 CFR 63, Subpart DDDDD and the permittee shall comply with the applicable requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Navajo performs the annual tune up required by MACT Subpart DDDDD.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Navajo performs the annual tune up required by MACT Subpart DDDDD.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	MACT Subpart DDDDD reports were submitted semi-annually as follows: 01/30/2018 07/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers M. EPA Methods Test (Unit B-0009) Requirement: Compliance with CO BACT Limit and allowable emission limits in Table 106.A shall be demonstrated by emissions tests ensuring the unit is operating correctly and within desired	Navajo complies with A204.K. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

parameters. (NSR 0195M35, Condition A204.K and revised)				
Monitoring: The permittee shall conduct an EPA Method test no later than 180 days after permit issuance using EPA reference test methods in 40 CFR 60. Emission testing is required for CO. Test results that demonstrate compliance with the CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits.	Navajo complies with A204.B. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: Records of EPA Methods tests shall be maintained for the Boiler.	Navajo complies with A204.B. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the requirements of Section B111.D and summarize in tabular form the results of the EPA Methods test for CO, specifying the emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species.	The initial compliance test was completed on 11/06/2015, except for deviations previously reported or identified at the end of this report. MACT Subpart DDDDD reports were submitted semi-annually as follows: 01/30/2018 07/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers N. Verification of Energy Efficiency BACT Control Requirements (Unit B-0009) Requirement: The permittee shall comply with the allowable emission limits and the following BACT requirements. (NSR 0195M35, Condition A204.L and revised) 1. Operation and Maintenance (BACT #6):	Navajo complies with these conditions. The most recent periodic inspection and tune-up was completed on 02/06/2018.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

a. Periodic Boiler Tuning – The boiler shall be tuned annually to maintain optimal thermal efficiency. b. Periodic Boiler Inspection and Repair for air leakage – The boiler shall be inspected annually to maintain optimal thermal efficiency. c. Periodic Boiler Inspection and Cleaning for tube fouling – The boiler shall be inspected annually and necessary cleaning performed to prevent tube fouling. 2. Next Generation Ultra-low-NO_x high efficiency burners (NGULNB) (#5) shall be installed in the boiler design. 3. Flue gas economizer (BACT #2) – A heat exchanger shall be installed to recover heat from the exhaust gas to preheat incoming boiler feedwater to attain industry standard performance (IMO) for thermal efficiency. 4. Boiler insulation (BACT #4) – The boiler shall be designed and installed with boiler insulation to an optimum insulation thickness and material to achieve maximum energy efficiency. The OMP shall include the insulation				
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design and maintenance schedule. 5. Oxygen Trim Control (BACT #7) – An Oxygen Trim Control system shall be designed and installed on the boiler to monitor oxygen concentration in the flue gas, and the inlet air flow is adjusted to maximize thermal efficiency. 6. Boiler blowdown minimization using manual analysis (BACT #3) – The Operation and Maintenance Plan (OMP) shall include methods and procedures to minimize blowdowns from the boiler to keep emissions at a minimum. 7. Condensate recovery (BACT #8): Condensate shall be recovered as represented in the application to achieve maximum energy efficiency. Condensate recovery shall be maximized through annual steam trap inspections and repairs.				
Monitoring: The Permittee shall develop an Operation and Maintenance Plan (OMP) to include at least the requirements listed above within 12 months of commencement of operations. The Permittee shall review the OMP annually to ensure it's effectiveness in meeting the requirements above and recommend changes.	Navajo complies with these conditions. The initial compliance test was completed on 11/06/2015. The OMP was submitted on 04/12/2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: (1) Records demonstrating compliance with the energy efficiency requirement	Navajo complies with these conditions.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

shall be recorded and summarized in the OMP. (2) The Permittee shall maintain a copy of the OMP onsite and available for inspection.				
Reporting: (1) The permittee shall notify the Department when the OMP has been prepared and available for review. (2) The permittee shall report in the semi-annual report a summary of actions covered in accordance with the OMP, and in accordance with Section B110.	Navajo complies with these conditions. The OMP was updated during this reporting period. Reports required by B110 are submitted as applicable.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers O. Periodic Emissions Tests (Unit B-009, CO BACT Limit) Requirement: Compliance with the CO BACT Limit and allowable emission limits in Table 106.A shall be demonstrated by performing periodic emissions tests.	Navajo complies with these conditions.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct periodic portable analyzer emission tests or EPA Reference Method Tests for CO at the intervals in the following schedule: First Test --- in accordance with the schedule in Section B111.A(2). Second Test --six (6) months after the first test is completed. All subsequent testing shall be done annually. Section B108 General Monitoring Requirements apply to this condition.	Navajo complies with these conditions. Periodic test completed on: 03/07/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

The permittee shall meet the testing requirements in Section B111.				
Recordkeeping: Records of periodic emission tests shall include the boiler fuel flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results. Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.	Data is maintained in Pi.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.	Reports required by B109, B110, and B111 are submitted as applicable.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A206 Flares A. FL-0400, FL-0403 Requirement: (NSR 0195M35, Condition A206.A) (1) An alarm system in good working order shall be connected to Flare FL-0403 which will signal non-combustion of the gas. (2) The acid gas flow meter for flare FL-0400 or FL-0403 shall be operated and calibrated at a frequency and by the procedure specified by the manufacturer. A chart recorder or data logger (electronic storage) shall continuously record the amount of gas measured by the flow meter.	1) FL-0403 (ALKY/CCR) is equipped with a flare alarm. 2) The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 is monitored during acid gas flaring by a flow meter. No acid gas flaring has occurred since September 5, 2006.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 as required under A105.B shall be monitored during flaring by a flow meter. The flow meter shall be operated continuously 24 hours per day, 365 days per year except for periods of flow meter maintenance or repair. The upper range of the flow meter shall be sufficient to record the highest expected flow rate of fuel gas sent to flare. The reading of this flow meter and the flow meter to measure acid gas flow as required under Condition A105.B shall be	The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 is monitored during acid gas flaring by a flow meter.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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used to determine compliance with emission limits at A106.C.				
Recordkeeping: (1) Records of all periods of operation during which the flare pilot flame is absent as included in the MACT subpart CC semi-annual reports. (2) Records of the quantity of supplemental fuel used during each acid gas flaring incident to provide supplemental heat to flare FL-0400 or flare FL-0403. (3) The permittee shall maintain records from the flow meter of the amount of gas sent to the flare.	1) Flare pilot outages are included in the MACT CC semiannual reports dated as follows: 02/28/2018 08/30/2018 1) and 2) Records of supplemental fuel use and flare pilot flame are maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	1) Flare pilot outages are included in the MACT CC semiannual reports dated as follows: 02/28/2018 08/30/2018	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A206 Flares B. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Flares listed in Table 103.K) Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Tables 103.B. (63.640).	Navajo complies with all the requirements of MACT CC as shown for all affected sources in table 103.B. Navajo uses a third party LDAR contractor, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	Navajo complies with all the requirements of MACT CC as shown for all affected sources in table 103.B. Navajo uses a third party LDAR contractor.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Navajo complies with all the requirements of MACT CC as shown for all affected sources in table 103.B. Navajo uses a third party LDAR contractor.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo complies with all the requirements of MACT CC as shown for all affected sources in table 103.B. Navajo uses a third party LDAR contractor.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A207 Sulfur Recovery Plant (SRP), Tail Gas Incinerator (TGI) A. Consent Decree Requirements for SRP and TGI Requirement: In addition to the applicable requirements of NSPS, 40 CFR 60, Subparts J and Ja, the permittee shall accomplish the following: 1. Navajo shall route all Sulfur Recovery Plant (SRP) sulfur pit emissions from the SRP so that sulfur pit emissions to the atmosphere either are eliminated or are included and monitored as part of the applicable Sulfur Recovery Plant's tail gas emissions that meet the NSPS Subpart J or Ja limit for SO ₂ . (CD ¶18.C.ii) 2. The SRP and TGI (and any supplemental control devices) shall be operated and maintained, to the extent practicable, in accordance with the obligation to minimize SRP emissions through implementation of good air pollution control practices required by 40 CFR § 60.11(d), at all times, including periods of start-up, shutdown, and malfunction. (CD ¶18.C.iii)	1) Sulfur Recovery Plant (SRP) sulfur pit emissions are routed to the Tail Gas Incinerators and are continuously monitored as part of the applicable Sulfur Recovery Plant's tail gas emissions that meet the NSPS Subpart J limit for SO ₂ . 2) The SRP and TGI are operated and maintained, to the extent practicable, in accordance with the obligation to minimize SRP emissions through implementation of good air pollution control practices required by 40 CFR 60.11(d), at all times, including periods of start-up, shutdown, and malfunction.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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(NSR 0195M35, Condition A207.A)				
Monitoring: The permittee shall comply with the applicable monitoring requirements of NSPS Subpart J or Ja.	All of the continuous monitors are operated, maintained, and certified as required.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain records in accordance with the applicable requirements of NSPS Subparts J and Ja.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J and Ja.	Navajo submitted NSPS Subparts J and Ja reports semiannually as follows: 1/30/2018 7/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A207 Sulfur Recovery Plant (SRP), Tail Gas Incinerator (TGI) B. The following BACT SO ₂ work practices and equipment shall apply to the SRP (SRU3/TGTU3/TGI3): (PSD-NM-0195-M25) Maintain at least 98% SRP on-stream operations. This includes curtailing refinery operations as necessary when SRU capacity is limited during planned startup, shutdown, and maintenance events. Maintain adequate SRP excess capacity to reduce the frequency and quantity of refinery excess SO ₂ emissions. After the refinery expansion project proposed units are constructed, the proposed SRU3 will provide at least 25% excess capacity. Continue to maintain and use a	Navajo has installed BACT, and implemented the work practices, as described in this permit condition.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

sulfur shedding plan to prevent or reduce acid gas flaring events from refinery upsets. An acid gas flaring event is defined as excess SO₂ emissions greater than 500 pounds in a 24-hour period. The plan shall state specific actions that may be taken to reduce or prevent acid gas flaring. The actions taken during any event will be based on the refinery operators' discretion, considering safety and other factors related to prudent operation. This plan is subject to review by NMED or EPA, and shall be amended upon written request by NMED or EPA. The sulfur shedding plan may include, but is not limited to the following options: (a) Store sour water to reduce acid gas generation from the sour water strippers (b) Reduce the operating rate of one or more amine strippers to lower the acid gas generation rate (c) Reduce one or more hydrotreating unit throughput rates to lower acid gas generation rate Use hydrogen, when available, as				
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SRU fuel during startup and hot standby to minimize carbon deposits on the SRU catalysts. During startup and shutdown and to the extent practicable, process vessels shall be depressurized into other process equipment rather than venting to a flare. The permittee shall document instances when this is not practicable.				
A207 Sulfur Recovery Plant (SPR), Tail Gas Incinerator (TGI) C. SRU1, SRU2, and SRU3 Requirement: (NSR 0195M35, Condition A207.C and revised) The permittee shall demonstrate compliance with the H₂S, SO₂, lb/hr, tpy emission limits by completing the following requirements, monitoring, recordkeeping and reporting: (1) A flow meter shall be installed, operated, calibrated, and maintained on the sour water stripper streams that go to the SRUs. (2) An SO₂ CEMS and flow meter shall be installed on the SRU1/SRU2 and SRU3 incinerator stacks. In addition, these units shall be equipped with instruments to measure and record sulfur concentration	1) A flow meter is in place on the sour water stripper streams into Units SRU1, SRU2, and SRU3. 2) The SO₂ CEMS and flow meter on the SRU1/SRU2 and SRU3 incinerator stacks, and the instruments used to measure sulfur concentration and flow rates of the gas streams into SRU1, SRU2, and SRU3, are calibrated and maintained at a frequency and method specified by the manufacturer, or as dictated by operating conditions. The SO₂ CEMS follow the quality assurance and quality control procedures in 40 CFR 60 Subpart J and Appendix F. 3) The minimum acceptable level of data capture for all instruments measuring flow and concentration of sulfur streams into the SRU1, SRU2, and SRU3 including the CEMS and flow meters on the incinerator stacks shall be at least 90% for each month. The 10% lost data includes periods when the concentration and corresponding flow are not being measured as a result of calibrations or breakdowns. The data capture is reported in the semi-annual NSPS Subparts J and Ja reports.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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and flow rates of the gas streams into SRU1, SRU2, and SRU3. The CEMS, flow meters, and data loggers shall be calibrated and maintained. In addition, the calibration of the SO₂ CEMS shall follow the quality assurance and quality control procedures in 40 CFR 60 Subpart J or Ja and Appendix F. (3) The minimum acceptable level of data capture for all instruments measuring flow of sulfur streams into the SRU1, SRU2, and SRU3, as well as the CEMS and flow meters on the incinerator stacks, shall be at least 90% for each semi-annual period. The 10% lost data will include all periods when the concentration and corresponding flow are not being measured as a result of calibrations or breakdowns.				
Monitoring: The gas stream feeding SRU1, SRU2, and SRU3 from the amine regeneration units and the sour water stripper shall be tested at least monthly for H₂S concentration. The permittee shall monitor the following: (1) Flow rate of sour water stream to SRUs, (2) SO₂ concentration in SRU incinerator stacks and (3) Flow rate of the SRU incinerator stacks.	1), 2), and 3) Navajo complies with the requirements of this permit condition.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Recordkeeping: The permittee shall maintain records in accordance with the applicable requirements of NSPS Subparts J or Ja and MACT Subpart UUU. The permittee shall also keep records of the following: (1) Flow rate of sour water stream to SRUs, (2) SO₂ concentration in SRU incinerator stacks and (3) Flow rate of the SRU incinerator stacks.	1), 2), and 3) Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☒ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J or Ja, MACT Subpart UUU, and Section B110.	Navajo submitted NSPS Subparts J, Ja and MACT Subpart UUU reports semiannually as follows: 1/30/2018 7/30/2018	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A207 Sulfur Recovery Plant (SPR), Tail Gas Incinerator (TGI) D. 40 CFR 60, Subpart J (Unit(s) SRU1 and SRU2) Requirement: The permittee shall comply with the applicable requirements of 40 CFR 60, Subpart J.	Navajo complies with the requirements of Subpart J.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall install a continuous monitoring device to monitor compliance with the H₂S limit. (40 CFR 60.105(a)(3-4))	H-0473 SRU1 and SRU2 TGI has a CMS installed.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain the continuous emission records.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Reporting: The permittee shall comply with the reporting requirements of 40 CFR 60, Subpart J.	Navajo submitted NSPS Subpart J reports semiannually as follows: 1/30/2018 7/30/2018	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives A. NSPS Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after January 4, 1983, and on or before November 7, 2006 (Fugitives subject in Table 103.B)	As of May 1, 2016, Navajo has elected to comply with 60.592a(e) of NSPS Subpart GGGa for all process units affected by NSPS Subpart GGG regardless of whether or not those process units have triggered NSPS Subpart GGGa applicability. Fugitive components subject to this rule are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. These are monitored and reported in a NSPS Subpart GGGa semiannual report	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart GGG for all sources in Table 103.B (affected units and voluntarily units). This table also includes areas that are voluntarily following the NSPS Subpart GGG monitoring requirements. (See footnote 1 to Table 103.B)	As of May 1, 2016, Navajo has elected to comply with 60.592a(e) of NSPS Subpart GGGa for all process units affected by NSPS Subpart GGG regardless of whether or not those process units have triggered NSPS Subpart GGGa applicability. Fugitive components subject to this rule are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. These are monitored and reported in a NSPS Subpart GGGa semiannual report	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 60, Subpart GGG.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart GGG.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart GGG.	Navajo submitted NSPS Subpart GGGa reports semiannually as follows: 2/28/2018 8/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives	Navajo continues to comply with the applicable requirements of NSPS Subpart GGGa as applicable, except for the deviations previously	☐ Continuous	☒ Yes	☐ Yes

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B. NSPS Subpart GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (Fugitives subject in Table 103.B) Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart GGGa for all sources in Table 103.B (affected units and voluntarily units). This table also includes areas that are voluntarily following the NSPS Subpart GGGa monitoring requirements.	reported or identified at the end of this report. Fugitive components subject to either of these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☒ Intermittent	☐ No	☒ No
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 60, Subpart GGGa.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart GGGa.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart GGGa.	Navajo submitted NSPS Subpart GGGa reports semiannually as follows: 2/28/2018 8/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives C. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Fugitives subject in Table 103.B) Requirement: The permittee shall comply with all applicable requirements of MACT	The Gasoline Loading Rack is equipped with a carbon adsorption system.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Tables 103.B. (63.640). For all activities in Table 103.B that are not subject to MACT CC, the permittee voluntarily performs a LDAR program for those units and that program meets the requirements of MACT CC.				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	The Gasoline Loading Rack carbon absorption has a VOC CEMS installed in the exhaust air stream.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Records are kept by Holly Energy Partners (HEP) either at the Gasoline Loading Rack or at the HEP Artesia Office.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted NSPS Subpart GGGa reports semiannually as follows: 2/28/2018 8/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives D. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (Fugitives subject in Table 103.B) Requirement The permittee shall comply with all applicable requirements of NSPS, 40 CFR Part 60.690, Subpart QQQ.	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations previously reported or identified at the end of this report. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations previously reported or identified at the end of this report. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

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Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.696.	Records are maintained by Navajo Environmental Department, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.697.	Navajo submitted NSPS Subpart QQQ reports semiannually as follows: 1/30/2018 7/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A209 Fugitives E. Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available Significant permit revision in accordance with 20.2.72 NMAC. The facility wide fugitive VOC emission limit shown above and in Table 106.A of this permit.	Navajo understands that minor changes to the facility piping and components that affect fugitive emissions will be added during the next permit modificaiton.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A210 Loading Racks A. Truck and Rail Loading (Unit shown in Table 106.G) Requirement: Compliance with the allowable emission limits in Table 106.G shall be demonstrated by not exceeding the monthly rolling 12-month total throughput for each loading rack for each different product in gallons per year (barrels/year).	Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall monitor the throughput volumes on a monthly basis.	The Truck & Rail Loading Racks volumes are maintained by Navajo's Accounting and Environmental Departments.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall record the monthly throughput volume for each loading rack for each different product. Each month during the first 12 months of monitoring the permittee shall record the cumulative condensate loadout volume and after the first 12 months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total loadout volume.	The Truck & Rail Loading Racks volumes are maintained by Navajo's Accounting and Environmental Departments.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Records shall also be maintained in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2018 8/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A210 Loading Racks B. Fuel Truck Loading Rack (Units subject in Table 103.D) (40 CFR 63, Subpart CC) Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries. Specially, the truck loading rack shall be equipped with a carbon adsorption system for compliance with the MACT requirements.	The Truck Loading Rack has a carbon absorption system installed.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. Specifically 63.427(a)(2), where a carbon adsorption system is used, a continuous emission monitoring system (CEMS) capable of measuring organic compound concentration shall be installed in the exhaust air stream.	The Truck Loading Rack has a CEMS installed.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart CC.	Records are kept by Holly Energy Partners (HEP) either at the Gasoline Loading Rack or at the HEP Artesia Office.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart CC.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2018 8/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A211 Fluid Catalytic Cracking Unit (FCC) A. Continuous Monitor System(CMS) (Unit FCC REGEN) Requirement: <u>(1) Consent Decree Limits on PM and SO₂ emissions from the FCC:</u> By no later than December 31, 2003, the Wet Gas Scrubber (WGS) on the FCC Regenerator shall comply with the following limits: (CD ¶12.B & ¶13.B) (d) SO₂ concentration not to exceed 25 ppmvd on a daily rolling 365-day average basis and 50 ppmvd on a daily rolling 7-day average basis, each corrected to 0% oxygen. Compliance with this emissions limit shall be demonstrated on an ongoing basis through the use of CMS; and (e) a particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis (CD ¶13.B). To demonstrate compliance with this requirement, the Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9, Opacity Test in accordance with their approved	1d) The FCC catalyst regenerator exhaust is continuously monitored for SO₂. 1e) The catalytic cracking regenerator is tested annually for PM and was tested on the following date: 01/09/2018 1f) Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9. 2) The FCC exhaust is continuously monitored for NO_x and CO. Deviations were reported to the Department as excess emission events and on the NSPS Subpart J report.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
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Alternative Monitoring Plan (AMP). (f) As the FCC Regenerator is subject to the provisions of 40 CFR 60.102 (NSPS Subpart J), it shall not discharge to the atmosphere gases exhibiting greater than 30 percent opacity, except for one six-minute average opacity reading in any one-hour period. (2) <u>Consent Decree Limits on NO_x and CO emissions from the FCC:</u> The FCC shall comply with NO_x and CO emission limits as follows: (a) The concentration-based (ppmvd) NO_x emission limit based on daily rolling 7-day and daily rolling 365-day averages, corrected to 0% oxygen as established pursuant to the Consent Decree, unless EPA rejects the proposed limit and establishes a different NO_x emission limit, in which case the FCC shall comply with EPA's established limit. Under no circumstances shall this emission limit be greater than a concentration-based limit that would be equivalent to 34.9 lbs/hr. The 7-day FCC NO_x emission limits, shall not apply during periods of Hydrotreater Outage provided that the FCC				
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(including associated air pollution control equipment) is maintained and operated in a manner that minimizes emissions in accordance with an EPA-approved good air pollution control practices plan. Navajo shall comply with the plan at all times, including periods of startup, shutdown, and malfunction of the hydrotreater. The daily rolling 365-day average NO_x emissions limit shall apply during periods of hydrotreater outages. The NO_x limits are: (1) 87.3 ppmvd NO_x, corrected to 0% O₂ on a daily rolling 7-day average, and (2) 58.1 ppmvd NO_x, corrected to 0% O₂ on a daily rolling 365-day average (b) The NSPS Subpart J emission limit of 500 ppmvd CO corrected to 0% O₂ on a 1-hour average basis and 100 ppmvd CO corrected to 0% O₂ on a daily rolling 365-day average basis, by no later than December 31, 2003.				
Monitoring: (1) A continuous monitor system (CMS) for CO, O₂, SO₂ and NO_x shall be installed, calibrated, maintained, and	1) The FCCU Catalyst Regenerator Scrubber exhaust is continuously monitored for CO, O₂, SO₂, and NO_x. PM is monitored annually. 2) The FCC regenerator CMS were recertified on	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

operated on the FCC Catalyst Regenerator vent stack(s) downstream of the scrubber in accordance with 40 CFR Part 60, §60.13, Appendix A, and the applicable performance specifications of Appendices B (Specifications 2 and 3) and F. The CMS shall be used to demonstrate compliance with CO, SO₂ and NO_x emissions limits and to report compliance with the terms and conditions of the Consent Decree. The CMS and process data shall be made available, by permittee, to applicable Federal and State Agencies (NMED) upon demand as soon as practicable. (CD ¶11.F, 12 D, and 14.C) (2) The FCC Regenerator Scrubber NO_x, SO₂, CO and O₂ CMS shall be recertified annually. (3) The CMS data shall be monitored to ensure the CO, SO₂ and NO_x emission limits for the FCC are met. (4) The Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9 Opacity test to demonstrate compliance with the particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis and opacity limit of 30%. Permittee shall meet testing requirements of B111.	the following dates: CO 01/09/2018 SO₂ 01/09/2018 NO_x 01/09/2018 O₂ 01/09/2018 3) CMS data is used to ensure emissions limits are met. 4) The catalytic cracking regenerator is tested annually for PM and was tested on the following date: 01/09/2018 Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9.			
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Recordkeeping: The permittee shall maintain the records of: (1) The certification and re-certification of the CMS. (2) Modifications to the FCC's good air pollution control practice plan to minimize NOx emissions shall be summarized on an annual basis if any changes were made. (CD ¶11.G) (3) The permittee shall keep records of CMS data monitoring NO₂, SO₂, PM₁₀ and CO emissions from the FCC. (CD ¶11.F, CD ¶12.D & CD ¶14.C) (4) Records of NOx, CO, SO₂ ppmvd, lb/hr, tpy; PM lb/hr, tpy and opacity. TPY shall be based on a monthly rolling 12-month total. (5) The permittee shall keep records of annual PM stack tests and weekly Method 9 observations conducted on the FCC. For any opacity observations conducted in accordance with the requirements of EPA Method 9, record the information on the form referenced in EPA Method 9, Sections 2.2 and 2.4.	1), 2), 3), 4), and 5) Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110 and testing requirements of B111.	Navajo submitted NSPS Subparts J and Ja reports semiannually as follows: 1/30/2018 7/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A211 Fluid Catalytic Cracking Unit (FCC) B. Performance Testing (Unit FCC REGEN) Requirements: (1) The permittee shall demonstrate compliance with the NSPS Subpart J particulate matter emission limit at Table 106.A by conducting an initial performance test in accordance with NSPS Subpart A, §60.8 and NSPS Subpart J, §60.106(b). The particulate matter stack test shall be repeated on an annual basis. (2) The permittee shall comply with all applicable performance testing requirements in accordance with MACT Subparts A and UUU.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Testing shall be conducted in accordance with NSPS Subparts A and J, and in accordance with MACT Subparts A and UUU.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain performance test records in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance with Section B109.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report performance test results in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

with Section B110.				
A212 Cooling Towers A. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Cooling Towers subject in Table 103.F) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart CC for heat exchange systems for all affected sources shown in Table 103.F attached. (63.654(a), 63.640(h)(6))	Navajo complies with the applicable requirements for heat exchange systems, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. (63.654(c), (d), (e), (f))	Navajo complies with the applicable requirements for heat exchange systems, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart CC. (63.654(g), 63.655(i)(4), (i)(5))	Records are maintained by the onsite LDAR contractor and by the Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart CC. (63.655(f), (f)(1)(vi), (g)(9), (h)(1), (7))	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2018 8/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A212 Cooling Towers B. Cooling Tower Operations (Cooling Towers subject in Table 103.F) Requirement: Compliance with the allowable emission limits in Table 106.H shall be demonstrated by meeting the following requirements:	1) Navajo operates with less than six (6) recirculating pumps per heat exchange system. 2) The pump capacity is less than 65,500 gpm 3) The Total Dissolved Solids (TDS) is sampled by the Navajo Lab and results maintained in the VortalBLISS system and maintained by the Navajo Environmental Department. 4) Drift eliminators installed are rated by the	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

1) operate a maximum of six (6) recirculating pumps at any one time; 2) ensure that each pump capacity shown in Table 104.A are not exceeded gallons per minute for each cooling tower (65,500 gpm total maximum rate for 6 pumps); 3) limit the Total Dissolved Solids (TDS) content for the cooling tower recirculating water system to 3500 ppmw, based on a monthly rolling 12-month annual average; 4) ensure that the drift eliminator are rated by the manufacturer at 0.001% or 0.003 drift or less as shown in Table 104.A; and 5) ensure that the drift eliminator is present and in good working order. The permittee shall measure the Total Dissolved Solids (TDS) content of the recirculating water through direct laboratory analysis, or may use a conductivity meter on the recirculating water system for the cooling tower. The correlation between conductivity of the water and the TDS content shall be taken as $0.9 * \text{conductivity } (\mu\text{mhos/cm}) = \text{TDS (ppmw)}$ unless a new correlation is determined through laboratory analysis and submitted to the Permit Program Manager	manufacturer for 0.001% or 0.003 drift. 5) Drift eliminators are inspected on an annual basis.			
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for approval.				
Monitoring: The permittee shall: 1) Monitor the recirculating water TDS content by direct laboratory analysis of the TDS or through use of conductivity meter values and correlated TDS on a monthly basis; and a. Any correlation other than the 0.9 value described above shall be developed by the permittee by independent laboratory measurement of at least 10 water samples with approximately evenly spaced measured TDS values that bracket the minimum and maximum values expected. The highest laboratory TDS sample used for the correlation shall be greater than the maximum allowable TDS of 3500 ppmw. 2) Perform an annual inspection of the drift eliminator and perform any maintenance necessary to ensure the device operates according to the manufacturer's specifications.	1) The Total Dissolved Solids (TDS) is sampled by the Navajo Lab and results maintained in the VortalBLISS system and maintained by the Navajo Environmental Department. 2) Drift eliminators are inspected on an annual basis. 3) The Cooling Towers are monitored for VOC breakthrough via the El Paso Method described in Appendix P.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

3) The permittee shall monitor the cooling water inlet and outlet streams for hydrocarbons on an annual basis using either EPA Method 8015 with a large enough sample to achieve accurate quantification of hydrocarbon content, EPA Method 8260, EPA Method 8270 or a similar method as approved by the Department prior to testing.				
Recordkeeping: The permittee shall maintain the following records: 1) Manufacturer's specifications demonstrating maximum capacities of the recirculating water pumps and the manufacturer's specification for the drift eliminator specified drift rate; 2) Monthly TDS and monthly rolling 12-month average; 3) If a conductivity meter is installed, a record of the correlation between conductivity and TDS, any laboratory analyses used to determine the correlation, and all related calculations; 4) Annual drift eliminator inspection and any records of maintenance performed.	1) Records maintained by the Navajo Inspections Department. 2) Records maintained by the Navajo Environmental Department. 3) Records maintained by the Navajo Lab. 4) Records maintained by the Navajo Inspections Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

The permittee shall maintain records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2018 8/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A213 Wastewater Systems A. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (Unit MAIN API) Requirement: Beginning December 31, 2003, all remaining and newly installed individual drain systems, oil-water separators, and aggregate facilities not previously specified shall be affected facilities, as the term is used in the NSPS, 40 CFR Part 60, Subpart QQQ, and shall be subject to and comply with the applicable requirements of 40 CFR Part 60, Subpart QQQ. (CD ¶29) The permittee shall comply with all applicable requirements of NSPS Subpart QQQ for the affected sources in Tables 103.B, C, G. (60.690)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations previously reported or identified at the end of this report. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695 and 60.696)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations previously reported or identified at the end of this report. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping	Records are maintained by Navajo Environmental Department.	☐ Continuous	☒ Yes	☐ Yes

requirements of 40 CFR 60.697.		☒ Intermittent	☐ No	☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.698.	Navajo submitted NSPS Subpart QQQ reports semiannually as follows: 1/30/2018 7/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A213 Wastewater Systems B. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Tables 103.B, C, G attached. (63.640).	Navajo complies with the requirements of MACT CC, except for deviations noted in semiannual reports.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	Navajo complies with the requirements of MACT CC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2018 8/30/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A213 Wastewater Systems C. Wastewater Treatment System (Units shown in Table 106.I) Requirement: Compliance with the emission limits in Table 106.I shall be demonstrated by properly maintaining and	Navajo complies with this requirement, except for deviations noted in semiannual reports.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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repairing the units, and running the Wastewater Model annually to calculate the maximum VOC emissions generated.				
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Monitoring: (1) Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events: (a) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period. (b) Unscheduled repairs that require a unit to be taken out of service for more than two hours in any twenty-four hour period. (2) The permittee shall annually run the Waste-Water Model to determine the hourly and annual emission rates, based on Toxchem V4 Input Parameters.	1) Navajo complies with this requirement, except for deviations noted in semiannual reports. 2) Navajo uses EPA's Water 9 waste-water model.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: (1) The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule. (2) The permittee shall maintain records of the Toxchem V4 Input Parameters and the emission calculation results compared to permit limits.	1) Navajo complies with this requirement, except for deviations noted in semiannual reports. 2) Navajo uses EPA's Water 9 waste-water model.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with the requirement of section B110.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
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PART 1 B General Conditions

1. Have these General Conditions been met during this reporting period? <u>If the section Heading is marked as N/A no remarks are required.</u> <u>Check only one box per subject heading.</u> <u>Explain answers in remarks row under subject heading.</u>	2. Was this facility in compliance with this requirement during the reporting period?	3. Does not apply
B100 <u>Introduction</u> A. N/A	☒ Yes Explain Below	☐ No Explain Below
REMARKS:		
B101 <u>Legal</u> A. Permit Terms and Conditions (20.2.70 sections 7, 201.B, 300, 301.B, 302, 405 NMAC) (1) The permittee shall abide by all terms and conditions of this permit, except as allowed under Section 502(b)(10) of the Federal Act, and 20.2.70.302.H.1 NMAC. Any permit noncompliance is grounds for enforcement action, and significant or repetitious noncompliance may result in termination of this permit. Additionally, noncompliance with federally enforceable conditions of this permit constitutes a violation of the Federal Act. (20.2.70.302.A.2.a NMAC) (2) Emissions trading within a facility (20.2.70.302.H.2 NMAC) (a) The Department shall, if an applicant requests it, issue permits that contain terms and conditions allowing for the trading of emissions increases and decreases in the permitted facility solely for the purpose of complying with a federally enforceable emissions cap that is established in the permit in addition to any applicable requirements. Such terms and conditions shall include all terms and conditions required under 20.2.70.302 NMAC to determine compliance. If applicable requirements apply to the requested emissions trading, permit conditions shall be issued only to the extent that the applicable requirements provide for trading such increases and decreases without a case-by-case approval. (b) The applicant shall include in the application proposed replicable procedures and permit terms that ensure the emissions trades are quantifiable and enforceable. The Department shall not include in the emissions trading provisions any emissions units for which emissions are not quantifiable or for which there are no replicable procedures to enforce the emissions trades. The permit shall require compliance with all applicable requirements. (3) It shall not be a defense for the permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (20.2.70.302.A.2.b NMAC) (4) If the Department determines that cause exists to modify, reopen and revise, revoke and reissue, or terminate this	☒ Yes Explain Below	☐ No Explain Below

PART 1 B General Conditions

permit, this shall be done in accordance with 20.2.70.405 NMAC. (20.2.70.302.A.2.c NMAC)

- (5) The permittee shall furnish any information the Department requests in writing to determine if cause exists for reopening and revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. This information shall be furnished within the time period specified by the Department. Additionally, the permittee shall furnish, upon request by the Department, copies of records required by the permit to be maintained by the permittee. (20.2.70.302.A.2.f NMAC)
- (6) A request by the permittee that this permit be modified, revoked and reissued, or terminated, or a notification by the permittee of planned changes or anticipated noncompliance, shall not stay any conditions of this permit. (20.2.70.302.A.2.d NMAC)
- (7) This permit does not convey property rights of any sort, or any exclusive privilege. (20.2.70.302.A.2.e NMAC)
- (8) In the case where an applicant or permittee has submitted information to the Department under a claim of confidentiality, the Department may also require the applicant or permittee to submit a copy of such information directly to the Administrator of the EPA. (20.2.70.301.B NMAC)
- (9) The issuance of this permit, or the filing or approval of a compliance plan, does not relieve the permittee from civil or criminal liability for failure to comply with the state or Federal Acts, or any applicable state or federal regulation or law. (20.2.70.302.A.6 NMAC and the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2)
- (10) If any part of this permit is challenged or held invalid, the remainder of the permit terms and conditions are not affected and the permittee shall continue to abide by them. (20.2.70.302.A.1.d NMAC)
- (11) A responsible official (as defined in 20.2.70.7.AE NMAC) shall certify the accuracy, truth and completeness of every report and compliance certification submitted to the Department as required by this permit. These certifications shall be part of each document. (20.2.70.300.E NMAC)
- (12) Revocation or termination of this permit by the Department terminates the permittee's right to operate this facility. (20.2.70.201.B NMAC)
- (13) The permittee shall continue to comply with all applicable requirements. For applicable requirements that will become effective during the term of the permit, the permittee shall meet such requirements on a timely basis. (Sections 300.D.10.c and 302.G.3 of 20.2.70 NMAC)

B. Permit Shield (20.2.70.302.J NMAC)

- (1) Compliance with the conditions of this permit shall be deemed to be compliance with any applicable requirements existing as of the date of permit issuance and identified in Table 103.A. The requirements in Table 103.A are applicable to this facility with specific requirements identified for individual emission units.
- (2) The Department has determined that the requirements in Table 103.B as identified in the permit application are not

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applicable to this source, or they do not impose any conditions in this permit. (3) This permit shield does not extend to administrative amendments (Subsection A of 20.2.70.404 NMAC), to minor permit modifications (Subsection B of 20.2.70.404 NMAC), to changes made under Section 502(b)(10), changes under Paragraph 1 of subsection H of 20.2.70.302 of the Federal Act, or to permit terms for which notice has been given to reopen or revoke all or part under 20.2.70.405 and 20.2.70.302J(6). (4) This permit shall, for purposes of the permit shield, identify any requirement specifically identified in the permit application or significant permit modification that the department has determined is not applicable to the source, and state the basis for any such determination. (20.2.70.302.A.1.f NMAC) C. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollutant control practices for minimizing emissions. (20.2.7.109 NMAC). The establishment of allowable malfunction emission limits does not supersede this requirement.			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B102 Authority A. This permit is issued pursuant to the federal Clean Air Act ("Federal Act"), the New Mexico Air Quality Control Act ("State Act") and regulations adopted pursuant to the State and Federal Acts, including Title 20, New Mexico Administrative Code, Chapter 2, Part 70 (20.2.70 NMAC) - Operating Permits. B. This permit authorizes the operation of this facility. This permit is valid only for the named permittee, owner, and operator. A permit modification is required to change any of those entities. C. The Department specifies with this permit, terms and conditions upon the operation of this facility to assure compliance with all applicable requirements, as defined in 20.2.70 NMAC at the time this permit is issued. (20.2.70.302.A.1 NMAC) D. Pursuant to the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2, all terms and conditions in this permit, including any provisions designed to limit this facility's potential to emit, are enforceable by the Department. All terms and conditions are enforceable by the Administrator of the United States Environmental Protection Agency ("EPA") and citizens under the Federal Act, unless the term or condition is specifically designated in this permit as not being enforceable under the Federal Act. (20.2.70.302.A.5 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below

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E. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the Modification and Exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).			
REMARKS:			
B103 <u>Annual Fee</u> The permittee shall pay Title V fees to the Department consistent with the fee schedule in 20.2.71 NMAC - Operating Permit Emission Fees. The fees will be assessed and invoiced separately from this permit. (20.2.70.302.A.1.e NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
REMARKS:			
B104 <u>Appeal Procedures</u> (20.2.70.403.A NMAC) A. Any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for a hearing before the Environmental Improvement Board ("board"). The petition shall be made in writing to the board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered, and attach a copy of the permitting action for which review is sought. Unless a timely request for a hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to: Secretary, New Mexico Environmental Improvement Board 1190 St. Francis Drive, Runnels Bldg. Rm N2153 Santa Fe, New Mexico 87502	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
REMARKS:			

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B105 <u>Submittal of Reports and Certifications</u>	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to Stacktest.AQB@state.nm.us or as directed by the Department. B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC) C. Compliance Certification Reports, Semi-Annual monitoring reports, compliance schedule progress reports, and any other compliance status information required by this permit shall be certified by the responsible official and submitted to the mailing address below, or as directed by the Department: Manager, Compliance and Enforcement Section New Mexico Environment Department Air Quality Bureau 525 Camino de los Marquez, Suite 1 Santa Fe, NM 87505-1816 D. Compliance Certification Reports shall also be submitted to the Administrator at the address below (20.2.70.302.E.3 NMAC): Chief, Air Enforcement Section US EPA Region-6, 6EN-AA 1445 Ross Avenue, Suite 1200 Dallas, TX 75202-2733			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			

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B106 <u>NSPS and/or MACT Startup, Shutdown, and Malfunction Operations</u>	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c). B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart. (20.2.70.302.A.1 and A.4 NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B107 <u>Startup, Shutdown, and Maintenance Operations</u>	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (20.2.7.14.A NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			

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B108 General Monitoring Requirements (20.2.70. 302.A and C NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. These requirements do not supersede or relax requirements of federal regulations.			
B. The following monitoring and/or testing requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer.			
C. If the emission unit is shutdown at the time when periodic monitoring is due to be accomplished, the permittee is not required to restart the unit for the sole purpose of performing the monitoring. Using electronic or written mail, the permittee shall notify the Department's Enforcement Section of a delay in emission tests prior to the deadline for accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish the monitoring.			
D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke monitoring period exemptions at B108.D(2), hours of operation shall be monitored and recorded.			
(1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period.			
(2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods.			
(3) If invoking the monitoring period exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the			

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monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during the five year term of this permit.

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| <p>E. The permittee is not required to report a deviation for any monitoring or testing in a Specific Condition if the deviation was authorized in this General Condition B108.</p> <p>F. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.</p> <p>G. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.</p> <p>H. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance. All monitoring periods, unless stated otherwise in the specific permit condition or federal requirement, shall commence at the beginning of the 12 month reporting period as defined at condition A109.B.</p> | |
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REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

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B109 <u>General Recordkeeping Requirements</u> (20.2.70.302.D.1 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any applicable requirements that become effective during the term of this permit. The minimum information to be included in these records is (20.2.70.302.D.1 NMAC): (1) Records required for testing and sampling: (a) equipment identification (include make, model and serial number for all tested equipment and emission controls); (b) date(s) and time(s) of sampling or measurements; (c) date(s) analyses were performed; (d) the company or entity that performed the analyses; (e) analytical or test methods used; (f) results of analyses or tests; and (g) operating conditions existing at the time of sampling or measurement. (2) Records required for equipment inspections and/or maintenance required by this permit: (a) equipment identification number (including make, model and serial number) (b) date(s) and time(s) of inspection, maintenance, and/or repair (c) date(s) any subsequent analyses were performed (if applicable) (d) name of the person or qualified entity conducting the inspection, maintenance, and/or repair (e) copy of the equipment manufacturer's or the owner or operator's maintenance or repair recommendations (if required to demonstrate compliance with a permit condition) (f) description of maintenance or repair activities conducted (g) all results of any required parameter readings (h) a description of the physical condition of the equipment as found during any required inspection (i) results of required equipment inspections including a description of any condition which required			

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adjustment to bring the equipment back into compliance and a description of the required adjustments B. The permittee shall keep records of all monitoring data, equipment calibration, maintenance, and inspections, Data Acquisition and Handling System (DAHS) if used, reports, and other supporting information required by this permit for at least five (5) years from the time the data was gathered or the reports written. Each record shall clearly identify the emissions unit and/or monitoring equipment, and the date the data was gathered. (20.2.70.302.D.2 NMAC) C. If the permittee has applied and received approval for an alternative operating scenario, then the permittee shall maintain a log at the facility, which documents, contemporaneously with any change from one operating scenario to another, the scenario under which the facility is operating. (20.2.70.302.A.3 NMAC) D. The permittee shall keep a record describing off permit changes made at this source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes. (20.2.70.302.1.2 NMAC) E. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine and predictable emissions during startup, shutdown, and scheduled maintenance (SSM): (1) The owner or operator of a source subject to a permit, shall establish and implement a plan to minimize emissions during routine or predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC - Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. (20.2.7.14.A NMAC) The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC. (2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. (3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction			
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events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.

- (4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

B110 General Reporting Requirements (20.2.70.302.E NMAC)

☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
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| <p>A. Reports of required monitoring activities for this facility shall be submitted to the Department on the schedule in section A109. Monitoring and recordkeeping requirements that are not required by a NSPS or MACT shall be maintained on-site or (for unmanned sites) at the nearest company office, and summarized in the semi-annual reports, unless alternative reporting requirements are specified in the equipment specific requirements section of this permit.</p> <p>B. Reports shall clearly identify the subject equipment showing the emission unit ID number according to this operating permit. In addition, all instances of deviations from permit requirements, including those that occur during emergencies, shall be clearly identified in the reports required by section A109. (20.2.70.302.E.1 NMAC)</p> <p>C. The permittee shall submit reports of all deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. These reports shall be submitted as follows:</p> <p>(1) Deviations resulting in excess emissions as defined in 20.2.7.7 NMAC (including those classified as emergencies as defined in section B114.A) shall be reported in accordance with the timelines specified by 20.2.7.110 NMAC and in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC)</p> <p>(2) All other deviations shall be reported in the semi-annual reports required in section A109. (20.2.70.302.E.2</p> | | | |
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NMAC). D. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC. E. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format. F. At such time as new units are installed as authorized by the applicable NSR Permit, the permittee shall fulfill the notification requirements in the NSR permit. G. Periodic Emissions Test Reporting: The permittee shall report semi-annually a summary of the test results. H. The permittee shall submit an emissions inventory for this facility annually. The emissions inventory shall be submitted by the later of April 1 or within 90 days after the Department makes such request. (20.2.73 NMAC and 20.2.70.302.A.1 NMAC) (1) The facility emits, or has the potential to emit, 5 tons per year or more of lead or lead compounds, or 100 tons per year or more of PM₁₀, PM_{2.5}, sulfur oxides, nitrogen oxides, carbon monoxide, or volatile organic compounds. (2) The facility is defined as a major source of hazardous air pollutants under 20.2.70 NMAC (Operating Permits). (3) The facility is located in an ozone nonattainment area and which emits, or has the potential to emit, 25 tons per year or more of nitrogen oxides or volatile organic compounds. (4) Upon request by the department. (5) The permittee shall submit the emissions inventory report by April 1 of each year, unless a different deadline is specified by the current operating permit. I. Emissions trading within a facility (20.2.70.302.H.2 NMAC) (1) For each such change, the permittee shall provide written notification to the department and the administrator at least seven (7) days in advance of the proposed changes. Such notification shall state when the change will occur and shall describe the changes in emissions that will result and how these increases and decreases in emissions will comply with the terms and conditions of the permit. (2) The permittee and department shall attach each such notice to their copy of the relevant permit.			
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REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

B111 General Testing Requirements**A. Compliance Tests**

- (1) Compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. (20.2.72 NMAC Sections 210.C and 213)
- (2) Compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.
- (3) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Department approval, be determined using the arithmetic mean of the results of the two other runs.
- (4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate, subject to the approval of the Department.
- (5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.
- (6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

☒ **Yes**
Explain
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☐ **No**
Explain
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☐ **N/A**
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B. EPA Reference Method Tests (1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of this permit, shall be conducted in accordance with the requirements of 40 CFR 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by 40 CFR 60, Appendix A: (a) Methods 1 through 4 for stack gas flowrate (b) Method 5 for TSP (c) Method 6C and 19 for SO₂ (d) Method 7E for NO_x (test results shall be expressed as nitrogen dioxide (NO₂) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO₂ is equivalent to 1.194 x 10⁻⁷ lb/SCF) (e) Method 9 for opacity (f) Method 10 for CO (g) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter). (h) Method 7E or 20 for Turbines per 60.335 or 60.4400 (i) Method 29 for Metals (j) Method 201A for filterable PM₁₀ and PM_{2.5} (k) Method 202 for condensable PM (l) Method 320 for organic Hazardous Air Pollutants (HAPs) (m) Method 25A for VOC reduction efficiency (n) Method 30B for Mercury (2) Alternative test method(s) may be used if the Department approves the change. C. Periodic Monitoring and Portable Analyzer Requirements (1) Periodic emissions tests (periodic monitoring) may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of ASTM D 6522-00. However, if a facility has met a previously approved			
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Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced.

- (2) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 20 minutes.

Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit.

- (3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.F.
- (4) During emissions tests, pollutant and diluent concentration shall be monitored and recorded. Fuel flow rate shall be monitored and recorded if stack gas flow rate is determined utilizing Method 19. This information shall be included with the test report furnished to the Department.
- (5) Stack gas flow rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) determined by a dedicated fuel flow meter and fuel heating value (Btu/scf) determined from a fuel sample obtained preferably during the day of the test, but no earlier than three months prior to the test date. Alternatively, stack gas flow rate may be determined by using EPA Methods 1-4.

D. Test Procedures:

- (1) The permittee shall notify the Department's Program Manager, Compliance and Enforcement Section at least thirty (30) days before the test to afford a representative of the Department an opportunity to be present at the test. (40CFR 60.8(d))
- (2) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.
- (3) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing.
- (4) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment.
- (5) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Method 1 or ASTM D 6522-00 as applicable.
- (6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed
- (7) Unless otherwise indicated by Specific Conditions or regulatory requirements, test reports shall be submitted to the Department no later than 30 days after completion of the test.

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REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

B112 Compliance

☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
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| <p>A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)</p> <p>B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.70.302.G.3 NMAC)</p> <p>C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit. (20.2.70.302.A.1 and G.3 NMAC)</p> <p>D. The permittee shall submit compliance certification reports certifying the compliance status of this facility with respect to all permit terms and conditions, including applicable requirements. These reports shall be made on the pre-populated Compliance Certification Report Form that is provided to the permittee by the Department, and shall be submitted to the Department and to EPA at least every 12 months. For the most current form, please contact the Compliance Reports Group at email:reportsgroup.aqb@state.nm.us. For additional reporting guidance see https://www.env.nm.gov/aqb/enforce_compliance/SubmittalForms.htm. (20.2.70.302.E.3 NMAC)</p> <p>E. The permittee shall allow representatives of the Department, upon presentation of credentials and other documents</p> | |
|--|--|

PART 1 B General Conditions

as may be required by law, to do the following (20.2.70.302.G.1 NMAC):

- (1) enter the permittee's premises where a source or emission unit is located, or where records that are required by this permit to be maintained are kept;
- (2) have access to and copy, at reasonable times, any records that are required by this permit to be maintained;
- (3) inspect any facilities, equipment (including monitoring and air pollution control equipment), work practices or operations regulated or required under this permit; and
- (4) sample or monitor any substances or parameters for the purpose of assuring compliance with this permit or applicable requirements or as otherwise authorized by the Federal Act.

REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

B113 Permit Reopening and Revocation

A. This permit will be reopened and revised when any one of the following conditions occurs, and may be revoked and reissued when A(3) or A(4) occurs. (20.2.70.405.A.1 NMAC)

- (1) Additional applicable requirements under the Federal Act become applicable to a major source three (3) or more years before the expiration date of this permit. If the effective date of the requirement is later than the expiration date of this permit, then the permit is not required to be reopened unless the original permit or any of its terms and conditions has been extended due to the Department's failure to take timely action on a request by the permittee to renew this permit.
- (2) Additional requirements, including excess emissions requirements, become applicable to this source under Title IV of the Federal Act (the acid rain program). Upon approval by the Administrator, excess emissions offset plans will be incorporated into this permit.
- (3) The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the terms and conditions of the permit.
- (4) The Department or the Administrator determines that the permit must be revised or revoked and reissued to assure compliance with an applicable requirement.

☒ **Yes**
Explain
Below

☐ **No**
Explain
Below

☐ **N/A**
Explain
Below

PART 1 B General Conditions

B. Proceedings to reopen or revoke this permit shall affect only those parts of this permit for which cause to reopen or revoke exists. Emissions units for which permit conditions have been revoked shall not be operated until new permit conditions have been issued for them. (20.2.70.405.A.2 NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B114 <u>Emergencies</u> (20.2.70.304 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the permittee, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, or careless or improper operation. B. An emergency constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations contained in this permit if the permittee has demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that: (1) An emergency occurred and that the permittee can identify the cause(s) of the emergency; (2) This facility was at the time being properly operated; (3) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; and (4) The permittee submitted notice of the emergency to the Department within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirement of 20.2.70.302.E.2 NMAC. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. C. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.			

PART 1 B General Conditions

D. This provision is in addition to any emergency or upset provision contained in any applicable requirement.			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B115 <u>Stratospheric Ozone</u> (20.2.70.302.A.1 NMAC) A. If this facility is subject to 40 CFR 82, Subpart F, the permittee shall comply with the following standards for recycling and emissions reductions: (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices, except for motor vehicle air conditioners (MVAC) and MVAC-like appliances. (40 CFR 82.156) (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment. (40 CFR 82.158) (3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program. (40 CFR 82.161)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B116 <u>Acid Rain Sources</u> (20.2.70.302.A.9 NMAC) A. If this facility is subject to the federal acid rain program under 40 CFR 72, this section applies. B. Where an applicable requirement of the Federal Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Federal Act, both provisions are incorporated into this permit and are federally enforceable. C. Emissions exceeding any allowances held by the permittee under Title IV of the Federal Act or the regulations promulgated thereunder are prohibited.	☐ Yes Explain Below	☐ No Explain Below	☒ N/A Explain Below

PART 1 B General Conditions

D. No modification of this permit is required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit modification under any other applicable requirement. E. The permittee may not use allowances as a defense to noncompliance with any other applicable requirement. F. No limit is placed on the number of allowances held by the acid rain source. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Federal Act. G. The acid rain permit is an enclosure of this operating permit.			
REMARKS:			
B117 <u>Risk Management Plan</u> (20.2.70.302.A.1 NMAC) A. If this facility is subject to the federal risk management program under 40 CFR 68, this section applies. B. The owner or operator shall certify annually that they have developed and implemented a RMP and are in compliance with 40 CFR 68. C. If the owner or operator of the facility has not developed and submitted a risk management plan according to 40 CFR 68.150, the owner or operator shall provide a compliance schedule for the development and implementation of the plan. The plan shall describe, in detail, procedures for assessing the accidental release hazard, preventing accidental releases, and developing an emergency response plan to an accidental release. The plan shall be submitted in a method and format to a central point as specified by EPA prior to the date specified in 40 CFR 68.150.b.	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			

Part 2

ACC Deviation Summary Report for Permit P051-R2 & R2M1

1. Are there any deviations identified in Part 1, Column 5. If NO, no further information is required on Part 2 of this form. If YES, answer question 2 below.	☒ Yes ☐ No
2. Have all deviations identified in Part 1, Column 5 been reported to the NMED as required by 20.2.7 NMAC or in a Semi-Annual Monitoring Report (20.2.70.302.E.1)? If YES, no further information is required on Part 2 of this form. If No, answer question 3 below and enter the required information in the Deviation Summary Table for each deviation not yet reported to the NMED.	☐ Yes ☒ No
3. Did any of the deviations result in excess emissions? For excess emissions deviations that have not previously been reported per requirements of 20.2.7 NMAC, a completed Excess Emission Form for each deviation must be attached to this report.	☒ Yes ☐ No

Deviation Summary Table for deviations not yet reported.				
No.	Applicable Requirement (Include Rule Citation)	Emission Unit ID(s)	Cause of Deviation	Corrective Action Taken
1	A106.C, A107.C, A107.F Allowable SSM and Malfunction Emissions	All Flares	Flare monitoring implemented to meet NSPS Ja requirements has resulted in data that has been under evaluation for potential exceedences of permit limits. Thus, any excess emissions have not been reported to date.	Navajo has been working to quantify emissions from its flares, and draft permit applications to reflect new permit limits were provided to and discussed with the NMED. Navajo will address any reporting of excess emissions that may be necessary with the NMED.
2	A206.B 40 CFR 63.11(b)	FL-0400 FL-0401 FL-0402 FL-0404	Flare gas below 300 btu/scf NHV due to hydrogen venting as a result of process upset and hydrogen imbalance.	Increase H2 consumption and reduce H2 sent to the flare.
3	A203.E	Tanks	The draft results of a recent third-party environmental compliance audit indicate potential exceedences of the Title V permit sour water throughput limit in 2016 (and 2015) and the distillate throughput in 2016. (The refinery's most recent NSR permit, PSD-NM-0195-M37, increases these limits.)	Navajo currently intends to seek a conforming amendment to the Title V permit to reflect the underlying applicable requirements in the most recent NSR permit.

PART 1 B General Conditions

Deviation Summary Table for deviations not yet reported. (cont.)				
No.	Applicable Requirement (Include Rule Citation)	Emission Unit ID(s)	Cause of Deviation	Corrective Action Taken
4	A109.D	FL-0402	HC Flaring Incident Corrective Active Follow-up Letter was not submitted within 30 days of implementation.	Navajo tracks RCA events on a weekly basis to determine if corrective actions have been implemented, and if a follow-up letter is therefore due within 30 days of implementation.
5	A106 and A107	All Sources	Several excess emission reports required under condition A106 and A107 were not reported within the time required under 20.2.7 NMAC.	Navajo tracks emission events on a daily basis and is in the process of installing a Data Acquisition System (DAS) to capture events immediately.
6	A103.A, 20.2.74 NMAC	GOHT, including FL-0404 and H-0601	The draft results of a voluntary, third-party, focused environmental compliance audit received on April 9, 2018, as updated by the auditor on May 29, 2018, indicate that PSD for carbon monoxide (CO) and NOx may have been triggered in connection with the 2001 GOHT Project if updated FL-0404 emissions data from recent monitoring under NSPS Ja were to be applied retroactively. This is under further review.	A draft application to revise NSR Permit No. 0195-M37 to reflect increased flare emission limits has been prepared and was recently discussed with the NMED. Preparation of a PSD permit application in connection with the GOHT Project is underway and approaches have been discussed with the NMED. Based on current review, BACT for CO and NOx is expected to require neither any reductions below current emission levels nor the installation of any control equipment.
7	20.2.72.200A(2)	Temporary Engines	Notice to NMED or other permitting steps may have triggered for the brief (< app. 4 hrs) installation of a temporary engine used as an alternative power source for a server in the IT Department in order to establish wiring connections for the forthcoming installation of a permanent standby emergency generator. This area is currently under review. An administrative permit revision was recently submitted for the permanent standby generator.	This is currently under review.

Deviation Summary Table (cont.)

	Deviation Started		Deviation Ended					Did you attach an excess emission form?
No.	Date	Time	Date	Time	Pollutant	Monitoring Method	Amount of Emissions	
1	09/01/2017	00:00	08/31/2018	23:59	NOx, CO, VOC, & SO2	CEMS/Pi Data	Unknown	☒ Yes ☐ No
2	N/A	N/A	N/A	N/A	N/A	CEMS/Pi Data (See Note 2)	N/A	☐ Yes ☒ No
3	N/A	N/A	N/A	N/A	N/A	Pi Data	Under Review	☐ Yes ☒ No
4	06/24/2018	00:00	07/30/2018	00:00	SO2	Pi Data	N/A	☐ Yes ☒ No
5	N/A	N/A	N/A	N/A	Various	Pi Data, Calculations	N/A	☐ Yes ☒ No
6	N/A	N/A	N/A	N/A	CO, NOx	Pi Data	N/A	☐ Yes ☒ No
7	06/20/2018	08:30	06/20/2018	12:30	Various	Calculations	N/A	☐ Yes ☒ No

Note 1

Consistent with prior reporting and previous discussions with NMED, this table does not include deviations previously reported to NMED, including in reports under the NSPS, MACT, or other programs.

Note 2

Refer to attached Table of Events Summary.

Table of Events Summary
(<300 BTU)

No.	Deviation Started Date/Time	Deviation Ended Date/Time	Pollutant	Monitoring Method	Amount of Emissions	Excess Emission Form?
2	12/04/2017 13:00	12/04/2017 14:00	N/A	Pi Data	N/A	No
(FL-0400)	08/06/2018 14:00	08/06/2018 20:00	N/A	Pi Data	N/A	No
2	02/05/2018 01:00	02/05/2018 02:00	N/A	Pi Data	N/A	No
(FL-0401)	02/13/2018 13:00	02/13/2018 19:00	N/A	Pi Data	N/A	No
	02/16/2018 00:00	02/16/2018 01:00	N/A	Pi Data	N/A	No
	02/16/2018 02:00	02/16/2018 03:00	N/A	Pi Data	N/A	No
	02/16/2018 04:00	02/16/2018 06:00	N/A	Pi Data	N/A	No
2	10/14/2017 16:00	10/14/2017 17:00	N/A	Pi Data	N/A	No
(FL-0402)	10/15/2017 12:00	10/15/2017 01:00	N/A	Pi Data	N/A	No
2	10/02/2017 14:00	10/02/2017 16:00	N/A	Pi Data	N/A	No
(FL-0404)	10/09/2017 17:00	10/09/2017 18:00	N/A	Pi Data	N/A	No
	12/28/2017 05:00	12/28/2017 07:00	N/A	Pi Data	N/A	No
	06/19/2018 13:00	06/20/2018 06:00	N/A	Pi Data	N/A	No



New Mexico Environment Department - Air Quality Bureau
 Compliance and Enforcement Section
 525 Camino de Los Marquez - Suite 1 - Santa Fe, NM 87505
 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-01	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0400
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	North Plant Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname: Raymond Smalts Office Phone: 575-746-5490 Extn.:
 E-mail Address: ray.smalts@hollyfrontier.com Cell Phone:

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
☐ Startup
☐ Shutdown
☐ Emergency
☐ Schedule Maintenance
☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



New Mexico Environment Department - Air Quality Bureau
 Compliance and Enforcement Section
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 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-02	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0401
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	South Plant Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:		

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
- ☒ 20.2.70 NMAC (Title V)
- ☐ 40 CFR 60 (NSPS)
- ☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
- ☐ Startup
- ☐ Shutdown
- ☐ Emergency
- ☐ Schedule Maintenance
- ☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
- ☐ Continuous Emission Monitor
- ☐ Calculation
- ☐ Operating Log(s)
- ☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

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Title: Environmental Specialist

Date: 09/29/2016



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 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-03	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0402
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	FCC Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

☒ Malfunction	SS or SM Notification:	
☐ Startup	Date:	
☐ Shutdown	Explain:	
☐ Emergency		
☐ Schedule Maintenance		
☒ Title V Deviation	Affirmative Defense Claim:	Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



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Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-04	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0403
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	Alky Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

☒ Malfunction	SS or SM Notification:
☐ Startup	Date:
☐ Shutdown	Explain:
☐ Emergency	
☐ Schedule Maintenance	
☒ Title V Deviation	Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



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Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-05	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0404
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	GOHT Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

☒ Malfunction ☐ Startup ☐ Shutdown ☐ Emergency ☐ Schedule Maintenance ☒ Title V Deviation	SS or SM Notification: Date: Explain: Affirmative Defense Claim: Yes
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SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



New Mexico Environment Department - Air Quality Bureau
 Compliance and Enforcement Section
 525 Camino de Los Marquez - Suite 1 - Santa Fe, NM 87505
 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-06	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	Flare Malf Cap
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	Upset and Malfunction Emissions
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

☒ Malfunction ☐ Startup ☐ Shutdown ☐ Emergency ☐ Schedule Maintenance ☒ Title V Deviation	SS or SM Notification: Date: Explain: Affirmative Defense Claim: Yes
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SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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:

SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



September 30, 2019

Enforcement Manager
Air Quality Bureau - Enforcement
NM Environment Department
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505-1816

Certified Mail/Return Receipt
7018 0360 0001 7923 5958

**Re: HollyFrontier Navajo Refining LLC
Artesia, NM Refinery
Title V Operating Permits P051-R2M1
Annual Compliance Certification
Agency Interest No. 198
Reporting Period September 1, 2018 through August 31, 2019**

On behalf of HollyFrontier Navajo Refining LLC (Navajo), I am submitting Navajo's annual compliance certification (ACC) for the Artesia, NM Refinery.

Title V Operating Permit P051-R2M1 Reporting Period: September 1, 2018 through August 31, 2019

Consistent with the initial compliance certification, items identified during work practices, such as fugitive component monitoring inspections, that are corrected or repaired within the regulatory timeframe and that are properly documented, do not comprise exceptions or deviations.

Please feel free to contact me at (575) 746-5487 or Ray Smalts at (575) 746-5490 if you have any questions or should require any further information.

Sincerely,

Scott M. Denton
Environmental Manager

Enclosure

cc: US EPA (w/enc): Chief, Air Permits, U.S. EPA Region 6 (6PD-R), 1201 Elm Street, Suite 500, Dallas, TX 75270-2102

Navajo: P. Miller, W. Romine, R. Smalts, S. Hammond

Environmental File: 2.10 Annual Compliance Certifications (Title V)\Artesia Certification\2019 Artesia Certification\2019-09-30 Artesia Title V Annual Compliance Certification.pdf

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
(575) 748-3311 • <http://www.hollyfrontier.com>



**New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375**



Version 05.02.13

NMED USE ONLY	
TEMPO	

REPORTING SUBMITTAL FORM

NMED USE ONLY	
Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION					
A. ® Company Name: HollyFrontier Navajo Refining LLC			D. ® Facility Name: HollyFrontier Navajo Refining LLC		
B.1 ® Company Address: PO Box 159			E.1 ® Facility Address: 501 E. Main St.		
B.2 ® City: Artesia	B.3 ® State: NM	B.4 ® Zip: 8 8 2 1 1 - 0 1 5 9	E.2 ® City: Artesia	E.3 ® State: NM	E.4 ® Zip: 88210
C.1 ® Company Environmental Contact: Scott Denton	C.2 ® Title: Environmental Manager		F.1 ® Facility Contact: Scott Denton	F.2 ® Title: Environmental Manager	
C.3 ® Phone Number: 575-746-5487	C.4 ® Fax Number: 575-746-5451		F.3 ® Phone Number: 575-746-5487	F.4 ® Fax Number: 575-746-5451	
C.5 ® Email Address: Scott.Denton@hollyfrontier.com			F.5 ® Email Address: Scott.Denton@hollyfrontier.com		
G. Responsible Official: (Title V only): Parrish R. Miller		H. Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	I. Phone Number: 575-748-3311		J. Fax Number: 575-746-5451
K. ® AI Number: 198	L. Title V Permit Number: P051-R2M1	M. Title V Permit Issue Date: 01/22/2016	N. NSR Permit Number: PSD-NM-0195-M37	O. NSR Permit Issue Date: 08/12/2016	
P. Reporting Period: From: 09/01/2018 To: 08/31/2019					

SECTION II - TYPE OF SUBMITTAL (check one that applies)					
A. ☒	Title V Annual Compliance Certification	Permit Condition(s): A109	Description: Annual Compliance Certification		
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:		
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:	
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:	
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:	
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ : or NOI No. ☐ :	Condition(s):	Description:	
G. ☐	Requirement of an Enforcement Action	NOV No. ☐ : or SFO No. ☐ : or CD No. ☐ : or Other ☐ :	Section(s):	Description:	

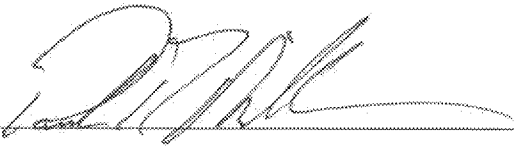
SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Parrish R. Miller</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: 	® Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	® Date: 09/30/2019	® Responsible Official for Title V? ☒ Yes ☐ No

Reviewed By: _____

Date Reviewed: _____

HFNA-000005179

Title V Report Certification Form

I. Report Type			
☒ Annual Compliance Certification ☐ Semi-Annual Monitoring Report ☐ Other Specify:			
II. Identifying Information			
Facility Name: Artesia Refinery			
Facility Address: PO Box 159, Artesia	State: NM	Zip: 88211-0159	
Responsible Official (RO): Parrish R. Miller	Phone: 575-748-3311	Fax: 575-746-5421	
RO Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	RO e-mail:		
Permit No.: P051-R2M1	Date Permit Issued: 01/22/2016		
Report Due Date (as required by the permit): 09/30/2018	Permit AI number: 0198		
Time period covered by this Report: From: 09/01/2018		To: 08/31/2019	
III. Certification of Truth, Accuracy, and Completeness			
I am the Responsible Official indicated above. I, <u>Parrish R. Miller</u>, certify that I meet the requirements of 20.2.70.7.AD NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete.			
Signature 		Date: <u>09/30/2019</u>	

Title V Annual Compliance Certification for Permit P051-R2 & R2M1

Title (TV) Permit Administration Amendment

On January 22, 2016 NMED AQB issued an Administrative Amendment to Operating Permit P052-R2.

The Administrative Amendment P051-R2M1 corrected the following:

- The Department acknowledges the Owner/Permittee name change from Navajo Refining Company, L.L.C. to HollyFrontier Navajo Refining LLC.

For this is an Administrative Amendment (P051-R2M1), the facility can use one Annual Compliance Certification (ACC) Form which will cover both TV Permits.

Although the facility is only required to submit one ACC Form, the facility shall submit two (2) separate TV Report Certification Forms. Each form shall list the corresponding TV Permit number, TV Permit Issue Date and Reporting Period.

Please note that this is a one-time authorization. Submittal forms for future Administrative Revisions will be evaluated on a case by case basis.

This form can also be used for future submittal that cover only the P051-R2M1 permit.

Part 1 - Permit Requirements Certification Table

Annual Compliance Certification Data for Title V Permit No. P051-R2 & R2M1				
1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
FACILITY SPECIFIC REQUIREMENTS A101 Permit Duration (expiration) A. The term of this permit is five (5) years. It will expire five years from the date of issuance. Application for renewal of this permit is due twelve (12) months prior to the date of expiration. (20.2.70.300.B.2 and 302.B NMAC)	Navajo submitted the application for renewal on May 06, 2019.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A101 Permit Duration (expiration) B. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate beyond the expiration date, provided that a timely and complete renewal application is submitted no later than twelve (12) months prior to the expiration date. (20.2.70.400.D NMAC)	Navajo submitted the application for renewal on May 06, 2019.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A102 Facility: Description B. This facility is located in the city limits of Artesia, NM.	This is the location of Navajo refinery.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A103 Facility: Applicable Regulations A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A	This permit condition provides a list of the applicable requirements that are addressed in detail in other permit conditions but does not impose any specific standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).			

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
NSR Permit No: PSD 0195-M35 (Per 20.2.72 NMAC)	X	Entire Facility
20.2.1 NMAC General Provisions	X	Entire Facility
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.33 NMAC Gas Burning Equipment -- Nitrogen Dioxide	X	Affected sources in Table 103.E
20.2.36 NMAC Petroleum Refinery - Sulfur	X	Entire Facility
20.2.37 NMAC Petroleum Processing Facilities	X	Entire Facility
20.2.38 NMAC Hydrocarbon Storage Facilities	X	Entire Facility
20.2.70 NMAC Operating Permits	X	Entire Facility
20.2.71 NMAC Operating Permit Emission Fees	X	Entire Facility
20.2.72 NMAC Construction Permit	X	Entire Facility
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	Entire Facility
20.2.74 NMAC Prevention of Significant Deterioration	X	Entire Facility
20.2.77 NMAC New Source Performance	X	Units subject to 40 CFR 60
20.2.78 NMAC Emission Standards for Hazardous Air Pollutants (HAPs)	X	Units subject to 40 CFR 61
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Units subject to 40 CFR 63
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility
40 CFR 60, Subpart A, General Provisions	X	See Tables 103.B to 103.K
40 CFR 60, Subpart Db "Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units"	X	See Tables 103.B to 103.J
40 CFR 60, Subpart Dc "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, Which Construction, Reconstruction, or Modification Commenced After June 9, 1989"	X	H-0464; H-3101
40 CFR 60, Subpart J, "Standards of Performance for Petroleum Refineries"	X	See Tables 103.B to 103.J
40 CFR 60, Subpart Ja, "Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007"	X	See Tables 103.B to 103.J

40 CFR 60, Subpart K, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978"	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984"	X	See Tables <u>103.B</u> to 103.k
40 CFR 60, Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984"	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after January 4, 1983, and on or before November 7, 2006.	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after November 7, 2006.	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	X	See Tables <u>103.B</u> to 103.K
40 CFR 61, Subpart A, General Provisions	X	Entire Facility
40 CFR 61, Subpart FF, National Emission Standards for Benzene Waste Operations	X	Benzene Waste Operations
40 CFR 63, Subpart A, General Provisions	X	Entire Facility
40 CFR 63, Subpart Q, National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers	X	See Table <u>103.F</u>
40 CFR 63, Subpart CC	X	See Tables <u>103.B</u> to 103.K
40 CFR 63 Subpart DDDDD	X	See Tables <u>103.B</u> to 103.K
40 CFR 63 Subpart UUU, Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units	X	See Tables <u>103.B</u> to 103.KJ

40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	X	See Tables 103.B to 103.KJ
40 CFR 68, (RMP), Section 112(r) Accidental Release	X	Entire Facility
Consent Decree CIV-01 1422LH Lodged 12/20/2001, Entered 3/5/2002	X	Entire Facility

Table 103.B Summary Applicability-Fugitives

Title V Permit Unit ID	Description	20.2.37	MACT CC	NSPS GGG	NSPS GGGa	NSPS QQQ	NESHAP J	NESHAP V	NAV-195-CC ¹
FUG-02-SP CRUDE	South Division Crude Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-05-KERO	Kerosene HDS Unit	NO	NO	NO	NO	YES	NO	NO	NO
FUG-06-NH DU	JPS Hydrodesulfurization	NO	YES	NO	NO	YES	NO	NO	NO
FUG-07-N AMINE	Amine Unit-Treating/Regen.	YES	NO	YES	NO	YES	NO	NO	YES
FUG-07-SWS1	Sour Water Stripper	YES	NO	YES	NO	YES	NO	NO	NO
FUG-08-TRUCK RK	Loading Racks	NO	YES	NO	YES	YES	NO	NO	NO
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-10-FCC	FCC w/ CVS	YES	YES	YES	NO	YES	NO	NO	NO
FUG-13-NH DU	Naphtha HDS Unit	YES	YES	YES	NO	YES	NO	NO	NO
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	NO	YES	NO	NO	YES	NO	NO	NO
FUG-20-ISOM	Powerformer/Penex Unit w/ CVS	NO	YES	NO	NO	YES	NO	NO	NO
FUG-21-SP VACUUM	Flasher/Vacuum Unit	NO	NO	NO	YES	YES	NO	NO	NO
FUG-25-ROSE-2	ROSE Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-29-BLENDER/TK FARM	Light Oil Tankage	NO	YES	NO	YES	YES	NO	NO	NO
FUG-31-SRU3/TGTU3/TGB	SRU3 Unit	YES	YES	NO	YES	YES	NO	NO	NO
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/ CVS	YES	YES	YES	NO	YES	NO	NO	NO
FUG-34-HYDROCRACKER	WX Hydrocracker	YES	YES	NO	YES	YES	NO	NO	NO
FUG-35-SAT GAS	Saturates Gas Plant	NO	YES	NO	NO	YES	NO	NO	NO
FUG-41-PBC	PBC Unit	NO	NO	NO	NO	YES	NO	NO	NO
FUG-43-S ALKY	South Alky Unit (W-76)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	YES	NO	NO	YES	NO	NO	NO

FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	YES	YES	NO	YES	NO	NO	NO
FUG-63-H2 PLANT-1	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO	NO
FUG-64-H2 PLANT-2	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO	NO
FUG-70-CCR	CCR Reformer (w/in battery limits)	YES	YES	YES	NO	YES	NO	NO	NO
FUG-73-SP UTIL	Utilities	NO	NO	NO	NO	YES	NO	NO	NO
FUG-80-WWTP CVS	Oil/Water Separator	YES	YES	YES	NO	YES	NO	NO	YES
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	NO	NO	NO	NO	YES	NO	NO	NO
FUG-FUEL GAS	Fuel Gas Distribution System	NO	YES	NO	NO	YES	NO	NO	NO
FUG-LPG	LPG Storage System	NO	NO	NO	NO	YES	NO	NO	YES
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	NO	NO	NO	NO	YES	NO	NO	NO
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/CVS	YES	NO	YES	NO	YES	NO	NO	YES
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks.	NO	NO	NO	NO	YES	NO	NO	NO

Table 103.C, Summary Applicability - Tanks

Tank No.	NSPS K	NSPS Ka	NSPS Kb	MACT CC Storage	MACT CC Wastewater	NESHAP FF	NSPS QQQ	20.2.37.205 NMAC	20.2.38.109 NMAC	20.2.38.110 NMAC	20.2.38.112 NMAC	20.2.38.113 NMAC	CAM
RW-4	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
RW-5	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	NO	NO
RW-6	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
T-0001	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0002	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0003	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0004	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
T-0011	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0012	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0013	NO	NO	NO	YES	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0026	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0028	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0031	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0040	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0041	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0042	NO	NO	NO	NO	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0045	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0046	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0049	NO	NO	NO	YES	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0055	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0056	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0057	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0059	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0061	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0063	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0064	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0065	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0071	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0072	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0073	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0074	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0075	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0076	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0078	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0079	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0081	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0082	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0106	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO

T-0107	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0108	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0109	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0110	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0111	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0112	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0114	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0115	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0116	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0117	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0119	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0124	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0400	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0401	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0402	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0404	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0405	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0409	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0410	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0411	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0412	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0413	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0415	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0417	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0418	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0419	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0420	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0422	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0423	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0431	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0432	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0433	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0434	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0435	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0437	YES	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0438	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0439	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0446	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0447	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0448	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0449	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0450	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO

T-0453	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0460	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0465	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0466	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0467	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0468	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0600	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0737	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	YES	NO
T-0802	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	YES	NO
T-0803	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO
T-0804	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO
T-0807	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0809	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO
T-0810	NO	NO	NO	NO	N/A	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0814	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO	NO
T-0815	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO	NO
T-0816	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO	NO
T-0830	NO	NO	YES	NO	YES	YES	YES	YES	NO	NO	YES	NO	NO	NO
T-0834	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0835	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO	NO
T-0838	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO	NO
T-0839	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0840	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0841	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0891	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-0892	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-1221	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-1222	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-1223	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
T-1224	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO
T-1225	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	YES	NO
T-1227	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO	NO
BioDiesel	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO
Ethanol	NO	NO	YES	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO	NO

Table 103.D, Summary Applicability											
Unit ID	Description	MACT CC		20.2.37.205.C		MACT BBBBBBB		MACT CCCCCC		CAM	
TL-4	Fuels Truck Loading Rack	YES		NO		NO		NO		NO	
TL-7	CBO/LCO Truck Loading Rack	NO		NO		NO		NO		NO	
RLO-8	Railcar Loading & Off-Loading Rack	NO		NO		NO		NO		NO	

Table 103.E, Summary Applicability – Heaters and Boilers											
Unit ID	Description	NSPS D	NSPS Db	NSPS Dc	NSPS J	NSPS Ja	MACT DDDDD	20.2.33.108 NMAC	20.2.36 NMAC	20.2.37 NMAC	CAM
B-0007	Boiler 7	NO	YES	NO	YES	NO	YES	YES	YES	YES	NO
B-0008	Boiler 8	NO	YES	NO	YES	NO	YES	YES	YES	YES	NO
B-0009	Boiler 9	NO	YES	NO	NO	Yes	YES	YES	YES	YES	NO
H-0009	Unit 13 Naphtha Splitter Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0011	Unit 21 Vacuum Unit Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0018	Unit 06 HDS Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0019	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0020	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0028	Unit 21 Heater H-28	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0030	Unit 06 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0040	Unit 13 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0303	Unit 05 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0312	Unit 10 FCC Feed Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0352	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0353	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0354	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0355	Unit 70 Stabilizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0362	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0363	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO

H-0364	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0421	Unit 44 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0464	SRU Hot Oil Heater	NO	NO	YES	YES	NO	NO	NO	YES	YES	NO
H-0473	SRU1 and SRU2 Tail Gas Incinerator	NO	NO	NO	YES	NO	NO	NO	YES	YES	NO
H-0600	Unit 09 Depropanizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-0601	Unit 33 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-2421	Unit 45 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
H-8801/ H-8802	Unit 63 Hydrogen Plant Reformer	NO	NO	NO	YES	NO	YES	YES	YES	YES	NO
H-3402	Unit 34 Hydrocracker Reboiler I	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO
H-3403	Hydrocracker Reactor Charge Heater	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO
H-9851	Unit 64 Hydrogen Plant Reformer	NO	NO	NO	NO	YES	YES	YES	YES	YES	NO
H-2501	Unit 25 ROSE® Unit No.2 Hot Oil Heater	NO	YES	NO	NO	YES	YES	YES	YES	YES	NO
H-3101 (formerly SRU3- HOH)	SRU3 Hot Oil Heater	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO
SRU3-TGI	SRU3 Tail Gas Incinerator	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO

Table 103.F, Summary Applicability – Cooling Towers

Cooling Tower	Description	MACT Q	MACT CC	CAM
Y-0001	TCC Cooling Tower	YES	YES	NO
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	YES	YES	NO
Y-0008	North Alky Cooling Tower	YES	YES	NO
Y-0011	FCC & NP Cooling Tower	NO	YES	NO
Y-0012	Hydrogen Plants Cooling Tower	NO	YES	NO
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	NO	NO	NO

Table 103.G, Summary Applicability – Wastewater

Equipment ID	Emission Point ID	MACT CC Wastewater	NESHAP FF	NSPS QQQ	CAM
MAIN API	D-0829/0830	YES	YES	YES	NO
DAF-0896	DAF-0896	YES	YES	NO	NO
DAF-0806	DAF-0806	YES	YES	NO	NO
T-0801		YES	YES	NO	NO
T-0805		YES	YES	NO	NO
T-0829		YES	YES	NO	NO
T-0836		YES	YES	NO	NO
T-0897		YES	YES	NO	NO

Table 103.H, Summary Applicability – FCC-CCR

Unit ID	NSPS J	NSPS Ja	MACT UUU	20.2.37 NMAC	CAM
FCCREGEN	YES	NO	YES	YES	YES - Satisfied by MACT UUU
CCR	N/A	N/A	YES	N/A	NO

Table 103.I, Summary Applicability – SRU

Source ID	Emission Point ID	Description	NSPS J	NSPS Ja	MACT UUU	20.2.36.113.A(1)(d) & 20.2.36.113.A(1)(e)	20.2.37.200B	20.2.37.202.A	20.2.39	CAM
SRU1	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU
SRU2	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU
SRU3	SRU3-TGI	SRU3 Tail Gas Incinerator	NO	YES	YES	YES	YES	YES	NO	YES-Satisfied by MACT UUU

Table 103.J, Summary Applicability – Engines

Source ID	Description	NSPS IIII	MACT ZZZZ	20.2.61.109 NMAC	20.2.61.114 NMAC	CAM
E-0600W	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0601M	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0602E	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0603	Fire Water Pump Engine	YES	YES	YES	YES	NO
E-0901	Fire Water Pump Engine	YES	YES	YES	YES	NO
G-0100	UPS backup generator	NO	YES	YES	YES	NO
G-0101	UPS backup generator	NO	YES	YES	YES	NO
V-0543	Portable Air Compressor	YES	YES	YES	YES	NO
V-0545	Portable Air Compressor	YES	YES	YES	YES	NO
V-0546	Portable Air Compressor	YES	YES	YES	YES	NO
E-8010	WWTP Emergency Engine	YES	YES	YES	YES	NO

Table 103.K, Summary Applicability – FLARES

Unit ID	Description	NSPS A	NSPS J	NSPS Ja	NESHAP A	MACT A	20.2.36.112 NMAC	20.2.36.113b NMAC	20.2.37.201B NMAC
FL-400	North Plant Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-401	South Plant Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-402	FCCU Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-403	Alky Flare	YES	NO	YES	NO	YES	YES	YES	YES
FL-404	GOHT Flare	YES	NO	YES	NO	YES	YES	YES	YES
All flares are steam assisted.									
State of New Mexico requires that an exit gas velocity of 65 ft/sec for modeling.									
The heating value of the gas for all flares is < 1000 BTU/scf.									

A103 Facility: Applicable Regulations M. Compliance with the terms and conditions of this permit regarding source emissions and operation demonstrate compliance with national ambient air quality standards specified at 40 CFR 50, which were applicable at the time air dispersion modeling was performed for the facility's NSR Permit 0195-M35.	This permit condition provides a list of the applicable requirements that are addressed in detail in other permit conditions but does not impose any specific standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A104 Facility: Regulated Sources A. Table 104.A lists the emission units authorized for this facility. Emission units identified as insignificant or trivial activities (as defined in 20.2.70.7 NMAC) and/or equipment not regulated pursuant to the Act are not included.	This permit condition provides a list but does not impose any standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Table 104.A: Regulated Sources List

Unit No.	Unit Type	Manufacturer	Model No.	Manufacture Date	Capacity
B-0007	Boiler 7	Todd/John Zink burners	Unknown	10/8/2001 *	215 MMBtu/hr (LHV Basis)
B-0008	Boiler 8	Todd/John Zink burners	Unknown	2003 *	215 MMBtu/hr (LHV Basis)
B-0009	Boiler 9	Babcock & Wilcox	TBD	TBD	220 MMBtu/hr (LHV Basis)
E-8010	WWTP Diesel Pump Engine	John Deere	6090HF485/ RG6090L101484	2/2011	400 hp
E-0600W	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113548	7/2012	376 hp
E-0601M	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113561	7/2012	376 hp
E-0602E	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113574	7/2012	376 hp
E-0603	Fire Water Pump Engine	Clarke Diesel (John Deere)	JU6H-UFADX8/ PE6068L228486	2012	305 hp
E-0901	Fire Water Pump Engine	Clarke Diesel (John Deere)	JX6H-UF30/ RG6125A016118	10/2007	430 hp
G-0100	UPS backup generator	Deutz	F4L912GEN/ WDZXL05.7010	1998	52 hp
G-0101	UPS backup generator	Deutz	F4L 1011 F/ EI97-68CA00-000-0053	1999	54 hp
V-0543	Portable Air Compressor	Cummings, Inc.	QSC, 73104611	8/30/2010	260 hp
V-0545	Portable Air Compressor	Cummings, Inc.	QSC, 73142120	4/8/2011	260 hp
V-0546	Portable Air Compressor	Cummings, Inc.	QSC, 46917364	11/19/2008	240 hp
H-0009	Unit 13 Naphtha Splitter Reboiler	Zeeco burners	GSFW-12 burners	Unknown	44 MMBtu/hr (LHV Basis)
H-0011	Unit 21 Vacuum Flasher Heater	Unknown	Unknown	Unknown	38 MMBtu/hr (LHV Basis)
H-0018	Naphtha HDS Reboiler	Zeeco burners	GSFW-8 burners	Unknown	32 MMBtu/hr (LHV Basis)
H-0019	South Crude Charge Heater	Callidus Technologies, LLC	CUBL-8W burners	New burners in 2005	54 MMBtu/hr (LHV Basis)
H-0020	South Crude Charge Heater	Callidus Technologies, LLC	CUBL-12W burners	New burners in 2005	78 MMBtu/hr (LHV Basis)
H-0028	Unit 21 Heater H-28 (previously H-10)	John Zink burners	PSFG-12 burners	Unknown	12.3 MMBtu/hr (LHV Basis)
H-0030	Unit 06 Charge Heater	John Zink burners	PSFG-16R burners	2000*	42 MMBtu/hr (LHV Basis)
H-0040	Unit 13 Charge Heater	John Zink burners	PSFG-16 burners	1990*	42 MMBtu/hr (LHV Basis)
H-0303	Unit 05 Charge Heater	John Zink burners	HEVD-Q-18 burners	1982*	11 MMBtu/hr (LHV Basis)
H-0312	Unit 10 FCC Feed Heater	John Zink burners	VYD-18 burners	1990*	35 MMBtu/hr (LHV Basis)
H-0352	Unit 70 CCR Heater (previously 70-H1)	Callidus Technologies, LLC	CUBL-10W burners	New burners in 2006	63 MMBtu/hr (LHV Basis)
H-0353	Unit 70 CCR Heater (previously 70-H2)	Callidus Technologies, LLC	CUBL-10W burners	New burners in 2006	81 MMBtu/hr (LHV Basis)
H-0354	Unit 70 CCR Heater (previously 70-H3)	Callidus Technologies, LLC	CUBL-10W burners	New burners in 2006	56 MMBtu/hr (LHV Basis)
H-0355	Unit 70 Stabilizer Reboiler Heater H-355 (previously 70H-4)	John Zink burners	Unknown	1991*	24 MMBtu/hr (LHV Basis)
H-0362	Unit 70 CCR Heater	Callidus Technologies, LLC	CUBL-8W burners	New burners in 2006	40 MMBtu/hr (LHV Basis)
H-0363	Unit 70 CCR Heater	Callidus Technologies, LLC	CUBL-8W burners	New burners in 2006	50 MMBtu/hr (LHV Basis)
H-0364	Unit 70 CCR Heater	Callidus Technologies, LLC	CUBL-6W burners	New burners in 2006	35 MMBtu/hr (LHV Basis)
H-0421	Unit 44 Charge Heater (previously H-21)	John Zink burners	LNC-PC-18 burners	1981*	27 MMBtu/hr (LHV Basis)

H-0464	SRU Hot Oil Heater	Callidus Technologies, LLC burners	LE-CSG-4W burners	2003*	9.6 MMBtu/hr (LHV Basis)
H-0600	Depropanizer Reboiler Heater (previously 3F-1)	Callidus Technologies, LLC burners	CUBL-12W burners	1991*, New burners in 2009	84 MMBtu/hr (LHV Basis)
H-0601	Unit 33 Charge Heater	Callidus Technologies, LLC burners	CUB-8P-CW burners	New burners in 2003	78 MMBtu/hr (LHV Basis)
H-2421	Unit 45 Charge Heater	Zeeco, Inc. burners	GLSF-14 Round Flame "Free Jet" burners	2006*	27 MMBtu/hr (LHV Basis)
H-8801	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-8802	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-2501	ROSE2 Hot Oil Heater	John Zink Company, LLC burners	COOLstar-18 burners	2009*	120 MMBtu/hr (LHV Basis)
H-3403	Hydrocracker Reactor Charge Heater	Callidus Technologies, LLC burners	CUBL-10W burners	TBD	32.0 MMBtu/hr (LHV Basis)
H-3402	Hydrocracker Fractionator Reboiler 1	Callidus Technologies, LLC burners	LE-CSG-12W burners	2009*	52 MMBtu/hr (LHV Basis)
H-9851	Unit 64 Hydrogen Plant Reformer	Callidus Technologies, LLC burners	CUBL-3WDF burners	2009*	337 MMBtu/hr (LHV Basis)
H-3101	SRU3 Hot Oil Heater	Callidus burner	Unknown	05/11/2009 *	9.6 MMBtu/hr (LHV Basis)
H-0473 (SRU1/SRU2 TGI)	SRU1 and SRU2 Tail Gas Incinerator	Unknown	Unknown	Unknown	NA
SRU3-TGI	SRU3 Tail Gas Incinerator	Callidus Technologies, LLC burners	Unknown	05/11/2009 *	NA
FCC Regenerator	FCC Regenerator Scrubber	Unknown	Unknown	Unknown	NA
CCRr	CCR Reformer	Unknown	Unknown	Unknown	NA
FL-0400, North Plant Flare	North Plant Flare	Unknown	Unknown	Unknown	NA
FL-0401, South Plant Flare	South Plant Flare	Unknown	Unknown	Unknown	NA
FL-0402, FCC Flare	FCC Flare	Unknown	Unknown	Unknown	NA
FL-0403, Alky Flare	Alky Flare	Unknown	Unknown	Unknown	NA
FL-0404, GOHT Flare	GOHT Flare	Unknown	Unknown	Unknown	NA
Y-0001	TCC Cooling Tower	Unknown	Unknown	Unknown	5,000 gpm, 0.003% drift
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	Unknown	Unknown	Unknown	5,000 gpm, 0.003% drift
Y-0008	North Alky Cooling Tower	Unknown	Unknown	Unknown	12,500 gpm, 0.003% drift
Y-0011	FCC & NP Cooling Tower	Unknown	Unknown	Unknown	30,000 gpm, 0.001% drift
Y-0012	Hydrogen Plants Cooling Tower	Unknown	Unknown	Unknown	10,000 gpm, 0.001% drift
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	Unknown	Unknown	Unknown	3,000 gpm, 0.003% drift
MAIN API	Above Ground API Oil-Water Separator	Unknown	Unknown	Unknown	1,200 gpm
T-0896	DAF Unit T-0896	Unknown	Unknown	Unknown	1,200 gpm
T-0801	Enhanced Biodegradation Tank T-0801	Unknown	Unknown	Unknown	1,200 gpm
T-0836	Enhanced Biodegradation Tank T-0836	Unknown	Unknown	Unknown	1,200 gpm
T-0829	Equalization Tank T-0829	Not yet installed	Not yet installed	Not yet installed	1,200 gpm
T-0806	DAF Unit T-0806	Not yet installed	Not yet installed	Not yet installed	Not yet installed
Fugitives (see Table 103.B)	Equipment component leaks (pump seals, valves, flanges, etc.)	NA	NA	Varies	NA
Loading (see Table 103.D)	Bulk Loading/Unloading Racks	NA	NA	Varies	Varies
Tanks (see Table 103.C)	Fixed Roof, External Floating Roof & Internal Floating Roof Tanks	NA	NA	Varies	Varies
* Installation date					

Note: Serial numbers are not used since most equipment consists of field erected parts that are assembled on site and may have several "serial numbers" for various components. Heaters are the best example because each of the burners has a serial number but the heater as a whole does not have a single serial number. The heater as

a whole is typically identified by our equipment number. There may also be a "project number" or "job number" from the manufacturer, but that can change if a heater is revamped at a later date such as when they modify the convection section to improve energy efficiency.

A105 Facility: Control Methods A. Table 105.A lists all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.	This permit condition provides a list but does not impose any standards, monitoring, recordkeeping, or reporting requirements. Therefore, no further response is required. As instructed by the AQB, Navajo is completing the check box responses in columns 3, 4, and 5 of this form. Navajo continues to comply with all applicable requirements except for specific deviations as noted elsewhere in this document. (See the specific responses to the permit conditions that contain standards, monitoring, recordkeeping, or reporting requirements for more information).	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
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Table 105.A: Control Methods:

Control Equipment Unit No.	Control Description	BACT Yes or No	Pollutant being controlled	Control for Unit Number(s) ¹
FCC Regenerator Scrubber	Fluid Catalytic Cracking Unit Regenerator Cyclones + Wet Gas Scrubber	NO	PM & SO ₂	FCC Regenerator
CHLOR SORB®	CCR Regenerator Vent Control	NO	Chloride	CCR Regenerator Vent
FL-0400	North Plant Flare	NO	VOC & H ₂ S	Refinery process units
FL-0401	South Plant Flare	NO	VOC & H ₂ S	Refinery process units

FL-0402	FCC Flare	NO	VOC & H ₂ S	Refinery process units
FL-0403	Alky Flare	NO	VOC	Refinery process units
FL-0404	GOH Flare	NO	VOC & H ₂ S	Refinery process units
FL-HEP-PORT	Portable Flare for Holly Energy Partners (HEP) Pipeline Pigging Operations	NO	VOC	Pipeline Pigging Operations
H-0473	Sulfur Recovery Units No. 1 & 2 Tail Gas Incinerator	NO	Sulfur	SRU1 and SRU2
SCR	Selective Catalytic Reduction + ultra-low NO _x burners	YES	NO _x	H-9851
SRU3-TGI	Sulfur Recovery Unit No. 3 Tail Gas Incinerator	YES	Sulfur	SRU3
SRU3/TGTU3/TGI3	Best Work Practices, A207.B (BACT)	YES	SO ₂	SRU3
D-0829/0830	Main API Carbon Canisters	NO	VOC	MAIN API
Y-0011, Y-0012	Drift Eliminators on Cooling Towers (BACT)	YES	PM	Y-0011, Y-0012
T-0737, T-1225	External Floating Roofs (BACT)	YES	VOC	T-0737, T-1225

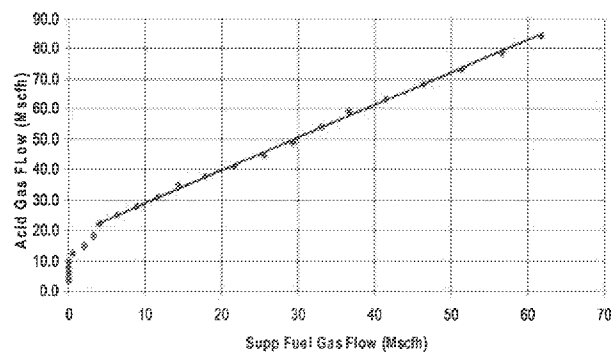
See Tables 106.B(1) and (2)	External and Internal Floating Roofs (None-BACT)	NO	VOC	See Tables 106.B(1) and (2)
B-0009	Energy Efficiency, A204.N (BACT)	Yes	Greenhouse Gases	B-0009
H-2501, H-3402, H-3101	ultra-low NOx burners (BACT)	Yes	NOx	H-2501, H-3402, H-3101
SRU-TGI, H-2501, H-3402, H-3101	Combust gaseous fuels only	Yes	VOC, PM	SRU-TGI, H-2501, H-3402, H-3101

1 Control for unit number refers to a unit number from the Regulated Equipment List

- B. In accordance with the requirement that Navajo Refining prevent exceedances of the 24-hour and 3-hour National Ambient Air Quality Standards (NAAQS) for SO₂ during major refinery malfunctions, Navajo Refining shall only flare acid gas from existing Flare FL-0403 according to Navajo Refining's "Phase Two" plan dated January 5, 1996 and received by the Department on January 8, 1996, or from Flare FL-0400. Navajo shall undertake the following measures for acid gas flaring from FL-0400 and FL-0403.

CHART NO. 1

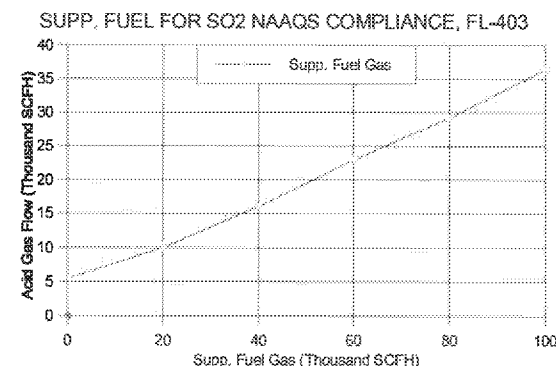
SUPP FUEL FOR SO₂ NAAQS COMPLIANCE, FL-400



- (1) Existing Flare FL-0400 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough heat to supplement the heat released by combustion of the acid gas itself and the heat provided by smoke-suppressing steam. The minimum flow rate of supplemental fuel gas to be supplied during acid gas flaring such that compliance with the NAAQS for SO₂ is assured shall be determined using Chart No. 1. The fuel gas used for this purpose shall be natural gas (see definition at C101.F).

- (2) Existing Flare FL-0403 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough supplemental heat. The volume of supplemental fuel gas to be provided to generate enough supplemental heat to ensure compliance with NAAQS for SO₂ shall be determined using Chart No. 2. The supplemental heat to be provided when flaring the maximum quantity of acid gas has been determined to be 52.9 million BTU per hour which is generated by burning 96,200 SCFH of supplemental fuel gas. This assumption has been made to ensure compliance with the NAAQS for SO₂. The fuel gas used for this purpose shall be natural gas (see definition at C101.F).

CHART NO. 2



- C. Beginning December 20, 2001 no fuel oil shall be burned in combustion units except as follows: (CD ¶17.C)
- (1) Torch Oil may be burned in the FCC Regenerator during FCC start-ups; and.
 - (2) Fuel Oil may be burned in combustion units after the establishment of FCC NO_x emissions limits pursuant to permit condition A110.A, provided that emissions from any such combustion units are routed through the FCC Wet Gas Scrubber and Navajo demonstrates, with the approval of EPA, that the NO_x emissions limits contained therein and the SO₂ emissions limits stated in A106.A and A107.A will continue to be met.
- D. The Artesia Refinery FCC was initially limited to less than 20,000 BPD capacity. Following the December 2003 expansion of the Artesia refinery's FCC as authorized by permit 195-M15, the catalyst regenerator for the FCC is subject to the minimum requirements for continuous emission monitoring and recording set forth in Appendix P to 40 CFR Part 51. Consent Decree Paragraph 15 required the FCC to be subject to NSPS Subpart J for opacity as of December 31, 2003. A wet gas scrubber was installed in 2003. An Alternative Monitoring Plan (AMP) request was submitted to EPA on December 31, 2003 because a continuous opacity monitoring system (COMS) will not work on a wet gas scrubber exhaust because of the interference from the water vapor. The AMP satisfies the requirements for both NSPS Subpart J and 40 CFR Part 51 Appendix P

A106 Facility: Allowable Emissions

Navajo continues to comply with all applicable

☐ Continuous☐ Yes☒ Yes

A. The following Section lists the emission units, and their allowable emission limits. (See Table 103.A for all applicable regulations)	emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Intermittent	☒ No	☐ No

Table 106.A: Allowable Emissions

Source ID	^{3,5} MM Btu/hr	SO ₂		² NO _x			CO		⁵ (lb/MM Btu LHV)	⁴ PM		VOC	
		⁵ (lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu)	⁵ (lb/hr)	(ton/yr)		(lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)
B-0007	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7		1.8	7.8	1.3	5.6
B-0008	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7		1.8	7.8	1.3	5.6
B-0009	220	2.6	11.4	4.4	19.3	0.02 BACT	8.1	35.7		1.6	7.2	0.9	3.9
H-0009	44	1.6	2.6	4.0	17.3	0.09	4.0	17.5		0.4	1.6	0.3	1.2
H-0011	38	1.4	2.3	9.5	31.6	-	3.5	15.2		0.3	1.4	0.2	1.0
H-0018	32	1.2	1.9	3.5	15.2	-	2.9	12.8		0.3	1.2	0.2	0.8
H-0019	54	2.0	3.2	2.9	12.5	0.0527	4.9	21.5		0.4	2.0	0.3	1.4
H-0020	78	2.8	4.6	4.2	18.3	0.0535	7.1	31.1		0.6	2.8	0.5	2.0
H-0028	12.3	0.4	0.7	2.2	9.5	-	1.1	4.9		0.1	0.4	0.1	0.3
H-0030	42	1.5	2.5	3.2	14.0	-	3.8	16.8		0.4	1.5	0.3	1.1
H-0040	42	1.5	2.5	3.8	16.6	-	3.8	16.8		0.4	1.5	0.3	1.1
H-0352/0353/0354	63/81/56	7.3	11.8	9.0	39.4	0.045	18.2	79.7		1.7	7.2	1.2	5.2
H-0355	24	0.9	1.4	2.2	9.5	-	2.2	9.6		0.2	0.9	0.1	0.6
H-0303	11	0.4	0.7	1.2	5.2	-	1.0	4.4		0.1	0.4	0.1	0.3
H-0312	35	1.3	2.1	4.6	20.2	-	3.2	14.0		0.3	1.3	0.2	0.9
H-0362/0363/0364	40/50/35	4.6	7.4	6.9	30.1	0.055	11.4	49.8		1.0	4.5	0.7	3.3
H-0421	27	1.0	1.6	2.4	10.6	0.09	2.5	10.8		0.2	1.0	0.2	0.7
H-0464	9.6	0.4	0.6	0.5	2.3	-	0.9	3.8		0.1	0.4	0.1	0.3
H-0600	84	3.1	5.0	4.7	20.3	0.05	7.6	33.5		0.7	3.03	0.5	2.2
H-0601	78	2.8	4.6	3.5	15.4	0.045	7.1	31.1		0.6	2.8	0.5	2.0
H-2421	27	1.0	1.6	1.2	5.3	0.045	2.5	10.8		0.2	1.0	0.2	0.7
H-8801/8802	60/60	0.2	0.8	4.2	18.4	0.035	10.9	47.8		1.0	4.3	0.7	3.1
H-2501	120	4.4	7.1	3.6	15.8	0.03	7.2	31.5	0.09 BACT	1.0	4.3	0.7	3.1
H-3402	52	1.9	3.1	1.6	6.8	0.03	4.7	20.7	0.09 BACT	0.4	1.9	0.3	1.4
H-3403	32.0	1.2	1.9	1.0	4.2	0.03	2.9	12.8		0.3	1.2	0.2	0.8
H-9851	337	0.5	2.2	4.2	18.5	0.0125 BACT	20.2	88.6	0.06 BACT	2.8	12.2	2.0	8.8
H-3101	9.6	0.4	0.6	0.3	1.3	0.03	0.9	3.8	0.09 BACT	0.1	0.4	0.1	0.3

H-0473 (SRU1/SRU2 TGI)	NA	30.0	81.8	6.5	28.5	N/A	27.7	121.2		0.5	2.2	0.1	0.6
SRU3-TGI	NA	30.0	81.8	6.5	28.5	N/A	15.0	65.7		0.5	2.2	0.1	0.6
FCC Regenerator	NA	27.9	61.0	35.0	101.9	N/A	121.9	106.8		25.0	109.5	-	-
FL-0400, North Plant Flare	NA	0.2	0.5	0.2	0.8	N/A	1.0	4.3		0.0	0.0	0.2	0.7
FL-0401, South Plant Flare	NA	0.1	0.1	<0.1	0.2	N/A	0.2	1.1		0.0	0.0	<0.1	0.2
FL-0402, FCC Flare	NA	0.1	0.1	<0.1	0.2	N/A	0.2	1.1		0.0	0.0	<0.1	0.2
FL-0403, Alky Flare	NA	<0.1	<0.1	<0.1	<0.1	N/A	<0.1	0.2		0.0	0.0	<0.1	<0.1
FL-0404, GOHT Flare	NA	2.4	10.5	4.1	18.1	N/A	13.6	59.6		0.0	0.0	2.3	10.2
Subtotal			345.4		668.8			1156.2			196.0		70.2
Tanks, Table 106.E													322.4
Fugitives, Table 106.F													994.6
Misc Sources, Table 106.G													16.6
Cooling Towers, Table 106.H								2.5			9.0		56.2
Oil/Water Separators, Table 106.I												5.3	9.5
⁶ SSM, Table 107			27.4		31.6			97.6			0.4		46.2
TOTAL ¹	NA		372.8		700.4	N/A		1256.3			205.3		1515.7

¹ Totals are for information and are not enforceable conditions.

² Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO₂

³ lbs-NO_x/MMBtu of heat input, calculated as a 3-hour average, when firing natural gas at 3% stack oxygen at full design load without air preheat.

⁴ All Particulate Matter emitted is assumed to be of aerodynamic diameter 10 microns or less.

⁵ Hourly emission limits and lb/MM Btu limits are based on a hourly rolling 3-hour average.

⁶ Maximum allowable emissions during maintenance, startup, or shutdown (SSM) and malfunction activities.

“-“ indicates that in accordance with the application, emissions of this pollutant are not expected.

“- -“ indicates that the emissions are less than 1.0 pph or 1.0 tpy and emission limits are not required for this permit, unless it's for a control device.

Unit 9851, the SCR exhaust has Ammonia Slip limit of 7 ppmv on a wet basis and 6.1 tpy (BACT).

A106 Facility: Allowable Emissions B. The permitted emission sources at the refinery shall consist only of the sources listed in Table 106.A and <u>Tables 106.B through 106.I</u> of this permit.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
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INTERNAL FLOATING ROOF STORAGE TANKS TABLE 106.B(1) VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC)			
Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored ¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0056	Naphthas	High Vapor Pressure ²	11.0
T-0106	Distillates	High Vapor Pressure ²	11.0
T-0107	Gasolines	High Vapor Pressure ²	11.0
T-0108	Gasolines	High Vapor Pressure ²	11.0
T-0109	Gasolines	High Vapor Pressure ²	11.0
T-0111	Naphthas	High Vapor Pressure ²	11.0
T-0112	Naphthas	High Vapor Pressure ²	11.0
T-0011	Gasolines	High Vapor Pressure ²	11.0
T-0124	Gasolines	High Vapor Pressure ²	11.0
T-0012	Gasolines	High Vapor Pressure ²	11.0
T-0413	Distillates	High Vapor Pressure ²	11.0
T-0415	Gasolines	High Vapor Pressure ²	11.0
T-0417	Gasolines	High Vapor Pressure ²	11.0
T-0439	Crude Oil	High Vapor Pressure ²	11.0

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

EXTERNAL FLOATING ROOF STORAGE TANKS

TABLE 106.B(2) VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC) -

Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored ¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0057	Naphthas	High Vapor Pressure ²	11.0
T-0078	Isomerates	High Vapor Pressure ²	11.0
T-0079	Isomerates	High Vapor Pressure ²	11.0
T-0117	Gasolines	High Vapor Pressure ²	11.0
T-0401	Gasolines	High Vapor Pressure ²	11.0
T-0402	Gasolines	High Vapor Pressure ²	11.0
T-0411	Gasolines	High Vapor Pressure ²	11.0
T-0412	Gasolines	High Vapor Pressure ²	11.0
T-0435	Crude Oil	High Vapor Pressure ²	11.0
T-0437	Crude Oil	High Vapor Pressure ²	11.0
T-0450	Naphthas	High Vapor Pressure ²	11.0
T-0802	Sour Water	High Vapor Pressure ²	11.0
T-0830	Slop	High Vapor Pressure ²	11.0
T-0834	Distillates	Moderate Vapor Pressure ³	1.5
T-0835	Distillates	High Vapor Pressure ²	11.0
T-1225	Naphthas	High Vapor Pressure ²	11.0
T-0737	Sour Water	High Vapor Pressure ²	11.0
TK-NEWETHANOL	Ethanol	High Vapor Pressure ²	2.32

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomerate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

FIXED ROOF STORAGE TANKS			
TABLE 106.C VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)			
Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0013	Slop	Moderate Vapor Pressure ³	1.5
T-0040	Distillates	Low Vapor Pressure ⁴	0.5
T-0041	Distillates	Low Vapor Pressure ⁴	0.5
T-0110	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0400	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0404	Carbon Black Oil (CBO)	Low Vapor Pressure ⁴	0.5
T-0405	CBO	Low Vapor Pressure ⁴	0.5
T-0409	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0410	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0418	Distillates	Low Vapor Pressure ⁴	0.5
T-0419	Distillates	Low Vapor Pressure ⁴	0.5
T-0420	CBO	Low Vapor Pressure ⁴	0.5
T-0422	Distillates	Low Vapor Pressure ⁴	0.5
T-0423	Distillates	Low Vapor Pressure ⁴	0.5
T-0431	Distillates	Low Vapor Pressure ⁴	0.5
T-0432	Distillates	Low Vapor Pressure ⁴	0.5
T-0049	Slop	Moderate Vapor Pressure ³	1.5
T-0055	Distillates	Low Vapor Pressure ⁴	0.5
T-0058	Distillates	Low Vapor Pressure ⁴	0.5
T-0059	CBO	Low Vapor Pressure ⁴	0.5
T-0061	Distillates	Low Vapor Pressure ⁴	0.5
T-0063	CBO	Low Vapor Pressure ⁴	0.5

T-0065	CBO	Low Vapor Pressure ⁴	0.5
T-0075	CBO	Low Vapor Pressure ⁴	0.5
T-0433	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0434	Distillates	Low Vapor Pressure ⁴	0.5
T-0438	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0810	Slop	Moderate Vapor Pressure ³	1.5
T-0814	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0815	Distillates	Low Vapor Pressure ⁴	0.5
T-0838	Distillates	Low Vapor Pressure ⁴	0.5
T-1227	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0081	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0082	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
RW-4	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-5	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-6	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
TK- NEWBIODIES EL	Biodiesel	Low Vapor Pressure ⁴	0.022

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

⁴ Low Vapor Pressure Liquids include: Diesel (raw or finished), Kerosene (raw or finished), JP-8, CBO, LCO, Slurry, Heavy Slop, Cutback Asphalt, Cutter, VGO, AGO, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure less than 0.5 psia under actual storage conditions.

TABLE 106.D – STORAGE TANK THROUGHPUT AND TEMPERATURE LIMITS

Material	Throughput (bbl/yr)	Maximum Storage Temperature (°F)
Asphalt/Pitch	30,872,000	510
Carbon Black Oil (CBO)	1,291,610	250
Crude Oil	76,212,000	Ambient

Distillate	55,076,590	310
Gas Oil	25,059,500	310
Gasoline (includes isomerates)	57,910,908	Ambient
Naphtha	39,028,084	Ambient
Slop	1,330,000	Ambient
Sour Water	45,051	Ambient
BioDiesel	949,000	Ambient
Methanol	142,350	Ambient

TABLE 106.E- STORAGE TANK VOC AND H₂S EMISSION LIMITS¹ (return to A203)

Tank Type	VOC Emission Rate (tpy)	H ₂ S Emission Rate (tpy)
Fixed-Roof	238.6	0.0
Floating-Roof	83.8	1.47
Total Tanks	322.4	1.47

¹ The permittee shall demonstrate compliance with the above throughputs and emission limits through the annual emissions inventory process. Specific tank data (e.g. temperature & throughputs) shall be monitored and recorded weekly by the permittee.

Table 106.F, 'EMISSIONS LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOC) FUGITIVE EMISSIONS FROM EQUIPMENT LEAKS

Process Unit ID Number	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
FUG-02-SP CRUDE	South Division Crude Unit	10.2	44.6
FUG-10-FCC	FCC w/CVS	10.8	47.2
FUG-20-ISOM	Powerformer/Penex Unit w/CVS	5.9	25.7
FUG-21-SP VACUUM	Flasher/Vacuum Unit	3.2	13.9
FUG-05-KERO	Kerosene HDS Unit	5.2	22.7
FUG-06-NH DU	JP8 Hydrodesulfurization	7.1	30.9
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	3.5	15.3
FUG-35-SAT GAS	Saturates Gas Plant	18.3	80.0
FUG-29-BLENDER/TK FARM	Light Oil Tankage	6.8	29.6
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	3.5	15.3
FUG-FUEL GAS	Fuel Gas Distribution System	4.2	18.2

FUG-LPG	LPG Storage System	21.6	94.4
FUG-41-PBC	PBC Unit	3.4	14.7
FUG-70-CCR	CCR Reformer (w/in battery limits)	23.4	102.3
FUG-13-NH DU	Naphtha HDS Unit	10.2	44.6
FUG-43-S ALKY	South Alky Unit (W-76)	1.7	7.5
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	12.0	52.5
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	9.3	40.6
FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	2.6	11.2
FUG-07-N AMINE	Amine Unit-Treating/Regen.	6.3	27.5
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/ CVS	2.4	10.4
FUG-07-SWS1	Sour Water Stripper	1.6	7.0
FUG-80-WWTP CVS	Oil/Water Separator	1.3	5.5
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/ CVS	12.9	56.4
FUG-08-TRUCK RK	Loading Racks	2.8	12.1
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	0.7	2.9
FUG-73-SP UTIL	Utilities	16.7	73.3
FUG-63-H2 PLANT-1	Hydrogen Plant	2.6	11.2
FUG-31-SRU3/TGTU3/TGIB	SRU3 Unit	0.7	3.1
FUG-34-HYDROCRACKER	WX Hydrocracker	6.2	27.2
FUG-25-ROSE-2	ROSE Unit	8.0	35.1
FUG-64-H2 PLANT-2	Hydrogen Plant	2.6	11.2
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks	0.1	0.5
Subtotal Facility VOC CAP		227.8	994.6

¹ Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available Significant permit revision in accordance with 20.2.72 NMAC. The facility wide fugitive VOC emission limit shown above and in Table 106.A of this permit.

MISCELLANEOUS SOURCES
Table 106.G EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF
VOLATILE ORGANIC COMPOUNDS (VOCs)

Loading Rack	Loading Rack Description	Material Loaded	Hourly Throughput	Annual Throughput	VOC Emissions	
			bbl/hr	bbl/yr	lb/hr	ton/yr
TL-4 ^a	Fuels Truck Loading Rack	Gasoline	1214	1,600,696	4.25	2.80
		Diesel	107100	3,650,000	1.72	1.72
		Jet Fuel	35700	1,021,718	0.75	0.34
		TOTAL VOC			6.73	4.86
TL-7	CBO/LCO Truck Loading Rack	Carbon Black Oil	30000	500,808	6.30	1.57
		Light Cycle Oil	38100	20,119	3.55	0.06

		TOTAL VOC			6.30	1.63
RLO-8	Railcar Loading & Off-Loading Rack	Carbon Black Oil	30000	365,000	6.30	1.15
		Diesel	20000	1,144,000	0.32	0.54
		Jet Fuel	20000	1,144,000	0.42	0.38
		Asphalt	30000	2,628,000	0.01	0.03
		TOTAL VOC			6.30	2.09
FUG-ODOR	Odor Controlling Atomizer		1250 ml/hr	10950 liters	0.46	2.0

Note:1. Calculation method and factors per AP-42, Section 5.2, dated June 2008.

- a Controlled emission rate. The previous controlled rate was set by the terms of the consent agreement between Navajo Refining Co. and the Department executed January 28, 1994. The agreement required that the incinerator have a minimum 90% destruction efficiency for gasoline loading and a minimum 80% destruction efficiency for diesel fuel loading or Jet A fuel loading. This was achieved by a vapor combustor. This device has since been replaced with a carbon adsorption system compliant with MACT Subpart R, as subject per MACT Subpart CC. Emission limits changed in 195-M-17 to correspond to Title V permit values.

COOLING TOWERS						
Table 106.H EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS and PM						
Source ID	VOC lb/hr	VOC tons/yr	PM (lb/hr)	PM (tons/yr)	CO (lb/hr)	CO (tons/yr)
Y-0001	1.8	7.9	0.3	1.2		
Y-0002	1.8	7.9	0.3	1.2		
Y-0008 ^a	6.5	28.3	0.7	2.9	0.58	2.54
Y-0011	1.3	5.5	0.5	2.3		
Y-0012	0.4	1.8	0.2	0.8		
CT TT-0006	1.1	4.7	0.2	0.7		
Subtotal (for informational purposes only)	12.8	56.1	2.1	9.1		

^a Y-0008 cooling tower provides 100% control of any NH₃ emissions from V-H2 and V-H2-2. Unit 64, Hydrogen Plant has de-aerator line that has dissolved CO that is connected to the cooling tower.

API OIL/WATER SEPARATORS				
Table 106.I EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES OF VOLATILE ORGANIC COMPOUNDS (VOCs)				
Equipment ID	Emission Point ID	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
MAIN API	D-0829/0830	Above Ground API Oil-Water Separators and enclosed drain system.	<0.1	<0.1

T-0896	DAF-0896	DAF Unit T-0896	<0.1	<0.1	
T-0801	T-0801	Enhanced Biodegradation Tank T-0801	<0.1	<0.1	
T-0836	T-0836	Enhanced Biodegradation Tank T-0836	0.1	0.5	
T-0829	T-0829	Equalization Tank T-0829	5.1	8.9	
T-0806	DAF-0806	DAF Unit T-0806	<0.1	<0.1	
		Subtotal (for informational purposes only)	5.3	9.4	

A106 Facility: Allowable Emissions		☒ Continuous	☐ Yes	☒ Yes
C. Compliance with Allowable Emission Limits		☒ Intermittent	☒ No	☐ No
Requirement: The allowable mmBtu/hr, lb/mmBtu, lb/hr, and tpy emission limits for equipment listed in Table 106.A construction of which predates the effective date of 20.2.72 NMAC (August 31, 1972), and have not been modified since August 31, 1972, shall be the "potential emission rate" of that unit as defined in 20.2.72.107 NMAC and the potential to emit of that unit defined under 20.2.74 NMAC. The mmBtu/hr, lb/hr and lb/mmBtu limits are based on an hourly rolling 3-hour average. (NSR 0195M35, Condition A106.C and revised)		Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.		
Monitoring: For units with lb/mmBtu emission limits in Table 106.A, the Permittee shall monitor the lb/mmBtu to demonstrate compliance with the mmBtu/hr, lb/hr, and tpy emission limits.		☒ Continuous	☐ Yes	☒ Yes
		☒ Intermittent	☒ No	☐ No
Recordkeeping: To demonstrate compliance, records shall be kept showing the correlation between lb/mmBtu and the mmBtu/hr and lb/hr, and the monthly rolling 12-month tpy		☒ Continuous	☐ Yes	☒ Yes
		☒ Intermittent	☒ No	☐ No

totals. The records shall also document any non-compliance with emission limits. For each unit, a summary of the method used to determine compliance shall be recorded. The permittee shall maintain records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A106 Facility: Allowable Emissions D. BACT SO₂ Limit – Fuel sulfur limit Refinery-Wide for all units burning refinery fuel gas (excluding units H-8801, H-8802 and H-9851 which burn only natural gas) shall not exceed 60 ppmv H₂S on a daily rolling 365-day average. The ton/yr emission rates for SO₂ in Table 106.A of this permit are based on this daily rolling 365-day average 60 ppmv H₂S limit. Compliance with this limit shall be demonstrated per the methods described in Condition A110.A.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A106 Facility: Allowable Emissions E. BACT NO_x Limit - In addition to the emission limits shown in Table 106.A, Boiler Unit B-0009 has a BACT NO_x limit of 0.02 lb/MM Btu, and CO₂ limit of 112.1 lb/MM Btu.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

A106 Facility: Allowable Emissions F. BACT SO₂ Limit – The Sulfur Recovery Unit No. 3 Tail Gas Incinerator (SRU3-TGI) is limited to 192 ppmvd SO ₂ at zero percent oxygen on a hourly rolling 12-hour average basis. In addition, SRU3-TGI is limited to 192 ppmvd SO ₂ at zero percent oxygen on a daily rolling 365-day average basis.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A106 Facility: Allowable Emissions G. BACT VOC Limit – The naphtha storage tank T-1225 and sour water storage tank T-0737 shall be equipped with an external floating roof using double seals to reduce VOC emissions to the atmosphere. The maximum true vapor pressure of any volatile organic liquid stored in either tank shall not exceed 11.0 psia. Demonstration of compliance is through the NSPS Kb and MACT emission limits.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A106 Facility: Allowable Emissions H. VOC – All fugitive piping components in VOC service associated with the process units proposed in Permit 195-M25 (Units FUG-25-ROSE-2, FUG-31-SRU3/TGI3/TGI3, and FUG-34-Hydorcracker) shall be monitored under the MACT subpart CC leak detection and repair program, or an approved equivalent program, to reduce VOC emissions.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A106 Facility: Allowable Emissions I. VOC – Consistent with MACT Subpart CC, the gasoline truck loading rack (TLO-4) shall be limited to 10 mg of VOC emissions per liter of gasoline loaded.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A106 Facility: Allowable Emissions J. PM10 – Cooling towers, Units Y-0011 and Y-0012, shall be equipped with high-efficiency drift eliminators to reduce PM10 emissions. Demonstration of compliance is through annual inspection in accordance with in Condition A212.B.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions A. The maximum allowable SSM and Malfunction emissions limits for this facility are listed in Table 107.A and were relied upon by the Department to determine compliance with applicable regulations.	Navajo continues to comply with all applicable emission limits except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

Table 107.A: Allowable SSM and Malfunction Units, Activities, and Emission Limits¹

Unit	Description of Emissions	NO _x		CO		VOC		TSP/PM ₁₀ /PM _{2.5}		SO ₂		H ₂ S	
		pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
SSM H-9851	Emissions during SCR downtime ¹	10.1	1.2	20.2	2.4	2.0	0.2	2.8	0.3	0.5	0.1	--	--
SSM T-0737	Emissions from roof landing	--	--	--	--	33.0	0.5	--	--	--	--	--	--
SSM Misc 1	Emissions from catalyst handling	--	--	--	--	--	--	1.5	<0.1	--	--	--	--
SSM SRU3-TGI	Emissions from SRU3 startup and shutdown	6.5	<0.1	15.0	0.1	0.1	<0.1	--	--	159.0	0.4	6.5	<0.1
SSM T-0078	Emissions from roof landing and tank refilling	--	--	--	--	177.0	2.7	--	--	--	--	--	--

SSM T-0079	Emissions from roof landing and tank refilling	--	--	--	--	306.0	4.6	--	--	--	--		
SSM T-1225	Emissions from roof landing					187.0	2.8						
SSM FL-HEP-PORT	Temporary, portable flare for natural gas pipeline maintenance	173.4	0.1	943.5	0.5	160.7	0.1	--	--	1.7	<0.1	0.02	<0.1
SSM SRU2-TGI (H-0473)	Emissions from SRU2 startup and shutdown	6.5	0.1	27.7	0.2	0.2	0.1	--	--	159.0	0.4	6.6	0.1
SSM Flare Cap	Emissions from venting SSM activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404.	162.9	18.3	1243.0	77.0	211.6	13.2	--	--	1133.4	14.9	0.4	0.1
Flares Malf Cap	Upset and Malfunction Emissions	--	10.0	--	10.0	--	10.0	--	--	--	10.0	--	--
SSM Misc 2	Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as heat exchanger repair.	17.0	1.9	127.1	7.8	21.2	1.4	--	--	129.3	1.6	0.7	0.1--
SSM Tanks Misc	Storage Tanks	--	--	--	--	112.0	10.6	--	--	--	--	0.1	0.1
Subtotal SSM/M1			31.6		98.0		46.2		0.4		27.4		0.4

During startup, shutdown, schedule maintenance or malfunction of the SCR control system, BACT for H-9851 shall be ultra-low NO_x burners emitting no more than 0.03 lb per MMBtu (LHV) on a hourly rolling 3-hour average basis at 3% excess oxygen. Pound per hour and tons per year limits are based on the lb/MMBtu limits and were used to demonstrate compliance with the lb/MMBtu limits and the Ambient Air Quality Standards (AAQS).

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions	Navajo complies with the conditions of B101.C and B107.A. Except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
B. The authorization of emission limits for startup, shutdown, maintenance, and malfunction does not supersede the requirements to minimize emissions according to Conditions B101.C and B107.A.				

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions C. SSM Flaring and combustion Emissions Requirement: The permittee shall comply with the flaring and combustion SSM NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emission limits at Table 107.A for the following SSM events: 1) SSM H-9851, Emissions during SCR downtime 2) SSM SRU-TGI, Emissions from SRU3 startup and shutdown 3) SSM FL-HEP-PORT, Temporary, portable flare for natural gas pipeline maintenance 4) SSM SRU2-TGI (H-0473), Emissions from SRU2 startup and shutdown 5) SSM Flare Cap, Emissions from venting SSM activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404 6) SSM Misc 2, Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as heat exchanger repair. (NSR 0195M35, Condition A107.C and revised)	1), 2), 3), 4), 5), and 6) Navajo obtains fuel gas analysis monthly from New Mexico Gas Company. Navajo continues to comply with these requirements except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
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Monitoring: The permittee shall monitor all flaring and combustion due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting all the SSM flaring and combustion information specified in A107C. Recordkeeping.	Navajo Environmental Department keeps an up-to-date events summary with emission units and pollutant.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: The permittee shall record the date, start and end times, and duration of every SSM flaring or combustion event. The NO_x, CO, VOC, SO₂, TSP, PM₁₀, and H₂S emissions shall be calculated for each event based on the volume of gas sent to the flare and the total sulfur content of the flared gas. Compliance with the hourly emission rates shall be demonstrated by calculating the hourly emission rates for each event and comparing the results to the hourly emission rate at Table 107.A. The annual emission rate shall be calculated as follows: 1) To demonstrate compliance during the first 12 months of monitoring, the permittee shall calculate and sum the monthly cumulative total of NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emissions; and 2) After the first 12 months of monitoring, the permittee shall calculate and sum the total of NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emissions on a monthly rolling 12 month basis. 3) The permittee shall maintain all	Navajo keeps records of SSM events. Maintenance scheduling is based on engineering judgment and operating experience.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Reports required by Section B110 are submitted as necessary, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions D. SSM VOC Emissions (Facility-Wide, Non-Combustion Sources) Requirement: The permittee shall comply with the SSM VOC emission limit at Table 107.A.	Navajo complies with the requirements listed in table 107.A.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall monitor all VOC emission activities due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting VOC emission calculation information for the following SSM VOC emission activities: 1) SSM T-0737, Emissions from roof landing 2) SSM T-0078, Emissions from roof landing and tank refilling 3) SSM T-0079, Emissions from roof landing and tank refilling 4) SSM T-1225, Emissions from roof landing 5) SSM Tanks Miscellaneous	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: The annual SSM VOC emission rate shall be calculated as follows:	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

1) To demonstrate compliance during the first 12 months of monitoring the permittee shall calculate and sum the monthly cumulative total of VOC emissions; and 2) After the first 12 months of monitoring the permittee shall calculate and sum the total of VOC emissions on a monthly rolling 12 month basis, including the methodology and/or assumptions used in the calculation(s). The permittee shall keep records to demonstrate compliance in accordance with Condition B109C, except the requirement in B109.C(2) to record the start and end times of SSM events shall not apply to known quantities of VOC emissions. 3) The permittee shall maintain all records in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions E. SSM Particulate Emissions (Unit SSM Misc 1) Requirement: The permittee shall minimize particulate emissions due to SSM events.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall monitor all particulate emissions due to routine and predictable startups, shutdowns, and scheduled maintenance events. For the event type of FCCU Catalyst Loading, the maximum material usage shall not exceed 1 hr-duration, 1 loading event/yr; and 237,048 lb/event/yr.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: For each event, the permittee shall maintain records of the duration in hours, events per year, and material usage for the particulate matter emitting SSM event - FCCU Catalyst Loading. The annual material usage shall be based on monthly rolling 12-month total. The permittee shall maintain all records in accordance with Section B109.	Catalyst loading data collected on a daily basis and maintained by the Navajo Process Engineering Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions F. SSM and Malfunction Flaring Emissions (SSM Flare Cap and Flares Malf Cap) Requirement: The permittee shall not exceed the pound per hour (pph) and ton per year (tpy) emission limits in Table A107.A and shall demonstrate compliance with these limits by calculating and summarizing these emission rates as required in recordkeeping.	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: A gas flowmeter and flow totalizer, equipped with a chart recorder or electronic data logger, shall be installed in the flare line to measure and record the total standard cubic feet (scf) of all gas (process gas, purge gas, pilot gas, and supplemental fuel gas) sent to the flare during each hour and each month. The permittee shall measure the H₂S content, the total sulfur content, the VOC content, and the heating value (Btu/scf) of the gas sent to the flare for combustion. H₂S shall be measured at least once every 24-hours on each of the inlet gas types/streams using a stain tube of the appropriate size range or an inline H₂S monitor. The total sulfur content, VOC content, and heating value (Btu/scf) of the natural gas sent to the flare shall be	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

measured at least once annually with an extended gas analysis. The flow meter and flow totalizer shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings. If used, the inline monitor shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings.				
Recordkeeping: The following records shall be kept: • stain tube and/or inline H₂S measurements • annual extended gas analysis • both the hourly and monthly volume (scf) of gas sent to the flare Each month, the permittee shall record and summarize in a table format the following. • H₂S and the total sulfur content • percent VOC content • gas heating value (Btu/scf) • the maximum hourly gas flow rate (scf/hr) that occurred during the month • each hourly gas flow rate (scf/hr) for any hour(s) that exceeded any pph emission limit during the month • the total month's scf of gas sent to the flare • the monthly rolling 12-month total	Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

of gas sent to each flare (scf/yr) Each month, the permittee shall record all routine and predictable startups, shutdowns, and scheduled maintenance events and shall also meet the recordkeeping requirements in General Condition B109 of this permit, except the requirement to record the start and end times of SSM events shall not apply. Records of flowmeter, totalizer, and inline monitor certifications, calibrations, documentation of the manufacturer's recommended calibration / maintenance schedule, breakdowns, reasons for the breakdown, and corrective actions taken shall be maintained. Each month, to demonstrate compliance with both the SSM and malfunction emission limits, the permittee shall calculate and summarize the maximum pph emission rate, any pph emission rate exceeding the permitted limits, and the monthly rolling 12-month total ton per year emission rates of NO_x, CO, VOC, SO₂, and H₂S for both SSM and malfunction events, using the following information: • the H₂S content, total sulfur content, VOC content, and the gas heating value (MMBtu/scf) from the most recent H₂S measurements and gas analyses • the emission factors used to calculate NO_x and CO • the maximum hourly gas flow rate				
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(scf/hr) • each hourly gas flow rate (scf/hr) for any hour(s) that exceeded any pph emission limit during the month, including the dates and times of these occurrences • the monthly rolling 12-month total of gas sent to the flare (scf/yr) For each event, the permittee shall record whether the emissions are due to SSM and/or malfunction. If the emissions are due to malfunction, the permittee shall indicate whether the emissions resulting from the event are included in the amount allowed by this permit's malfunction limit or whether the event is reported under 20.2.7 NMAC.				
Reporting: The permittee shall report according to Condition B110.	Navajo complies with these requirements, Navajo complies with these requirements, except for specific deviations as noted elsewhere in this document and events reported per 20.2.7 NMAC.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A108 Facility: Hours of Operation A. This facility is authorized for continuous operation. Monitoring, recordkeeping, and reporting are not required to demonstrate compliance with continuous hours of operation.	No requirement.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A109 Facility: Reporting Schedules A. A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The six month reporting periods start on September 1st and March 1st of each year.	Navajo submitted the requested monitoring reports as follows: 10/11/2018 04/11/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A109 Facility: Reporting Schedules B. The Annual Compliance Certification Report is due within 30 days of the end of every 12-month reporting period. The 12-month reporting period starts on September 1st of each year.	Navajo submitted the requested compliance certification report as follows: 09/27/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A109 Facility: Reporting Schedules C. In addition to the reports required by the applicable NSPS, NESHAP and MACT Subparts (including any voluntary programs referencing NSPS, NESHAP, or MACT Subparts) and by the applicable parts of 20.2 NMAC, the reporting required by the Consent Decree shall be submitted to the Department. The reports shall be submitted to the Air Quality Bureau within forty five (45) days of the end of each calendar quarter. If any reports indicate potential non-compliance with the terms of this permit, the Bureau may impose a more frequent reporting time-frame. The Department shall handle any confidential information in accordance with the provisions of 20.2.1.115 NMAC.	The Department has not requested more frequent reporting time-frames.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A109 Facility: Reporting Schedules D. Reporting required by the Consent Decree (not an exhaustive listing) (1) The permittee shall notify the Department's Enforcement Section, Air Quality Bureau in writing	Navajo submitted the Annual NOx Control Technology report as follows: 12/27/2018	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

of the annual progress of installation of NOx Control Technology required by Paragraph 16 of the Consent Decree. The report shall be submitted to the EPA and the NMED on or before December 31st of each calendar year commencing with the year 2002. (CD ¶16.E) (2) No later than forty-five (45) days following the end of an AG Flaring or TG Incident, the permittee shall submit to EPA and the NMED a report that sets forth the items detailed in the Consent Decree. (CD ¶20, CD¶21)				
A110 Facility: Fuel and Fuel Sulfur Requirements (as Required) A. Fuel, Fuel Sulfur, and NSPS J, Ja Sulfur Requirements (See Tables 103.E, H, I, & K, Summary of Applicable Requirements) Requirement: (NSR 0195M35, Condition A110.A and revised) (1) To comply with NSPS Subpart J, NSPS Subpart Ja, and the PSD BACT requirements in Section 106, the permittee shall install, calibrate and	Refinery fuel gas is continuously monitored for H2S content on a 3-hour rolling average. Exceedances are reported on Navajo's Subpart J and Subpart Ja semiannual reports.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

maintain a continuous monitoring system (CMS) to continuously measure and record either the hydrogen sulfide (H₂S) in the refinery fuel gas streams being burned in the Heaters and Boilers or the concentration of sulfur dioxide emissions to the atmosphere. (2) All stationary combustion equipment shall be fired with NSPS quality fuel gas with a maximum H₂S content of 0.1 grains/dscf (approx. 162 ppmv), based on a hourly rolling 3-hour average. (3) All stationary combustion equipment shall not combust gas with an annual average sulfur content exceeding 60 ppmv (approx. 0.037 grains) as a daily rolling 365-day average. (4) All stationary combustion equipment shall be affected facilities, as defined in NSPS 40 CFR Part 60, Subparts A and J or Ja, if refinery-produced fuel gas is combusted in the heaters and boilers, and shall comply with all applicable requirements of NSPS Subparts A and J or Ja. (See Table 103.E, Summary of Applicable Requirements)				
Monitoring: (1) The permittee shall install, certify, calibrate, maintain and operate a fuel gas continuous monitoring system (CMS) at the fuel gas mix drum outlet in accordance	1) CMS has been installed and is certified, calibrated and maintained. 2) CMS annual RATAs were completed as follows:	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

with the requirements of 40 CFR §§ 60.11, 60.13, and Part 60 Appendix A, and the applicable performance specification of 40 CFR Part 60 Appendices B and F. (2) The following CMS shall be certified initially and recertified annually: • D-0019 Low Pressure Fuel Gas H₂S CMS • D-0770 High Pressure Fuel Gas H₂S CMS (3) As required by the EPA-approvable alternative monitoring procedure (AMP), CCR off-gas streams that enter the refinery fuel gas system downstream of the H₂S CMS shall be monitored quarterly for H₂S using gas detector tubes or an equivalent method as follows: (a) CCR stabilizer off gas stream, (b) H₂ recycle gas stream, and c) CCR feed stream.	D-0019 Low Pressure Fuel Gas H₂S 3/07/2019 D-0770 High Pressure Fuel Gas H₂S 3/07/2019 3) The CCR stabilizer off gas, the H₂ recycle gas and the CCR feed streams are analyzed a minimum of quarterly.			
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subparts A, J, and Ja. (1) Records of the quantity of the refinery fuel gas and the monthly average heating value of the refinery fuel gas. This is used to demonstrate compliance with lb/mmBTU and lb/hr limits shown in Table 106.A. (permit limit) (2) Records of repairs, maintenance, and calibrations performed for the instruments that measure flow or	1) Fuel records are maintained in Pi. 2) Repair, maintenance, and calibration records are maintained by Navajo Instrument and Electrical Department. 3) CCR off-gas stream analysis records are maintained in the Navajo Environmental Department Files (REF.ART.3.J.05.A).	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

concentration for an applicable permit limit shall be kept. Examples include, but are not limited to, CMS, acid gas flow meters, and fuel gas flow meters. (40 CFR 60, Appendix F) (3) Records shall be kept of Alternative Monitoring Plan (AMP) H ₂ S analyses of the CCR off-gas streams that enter the refinery fuel gas system downstream of the fuel gas H ₂ S CMS. (NSPS J or Ja)				
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subparts A, J, and Ja, and Section B110.	Reports required by Subpart A are submitted semiannually. Reports required by Subparts J, Ja, and Section B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A111 Facility: 20.2.36 NMAC A. Facility: 20.2.36 NMAC Requirement: 20.2.36 NMAC (Petroleum Refinery - Sulfur, 11/30/95) applies to the refinery as a whole. Quarterly refinery-wide sulfur balance reports shall be filed in accordance with 20.2.36.113 NMAC. All flares and stacks shall meet the applicable height requirements of 20.2.36.114 NMAC as demonstrated through air dispersion modeling done at the time of unit installation. (NSR 0195M35, Condition A111.A)	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Quarterly monitoring of refinery-wide sulfur balance.	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall keep record of a copy of the Facility-Wide Sulfur Balance Report and the actual	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

height of flares and stacks.				
Reporting: The permittee shall report in accordance with 20.2.36.113A NMAC.	Navajo Refinery is no longer affected by 20.2.36 NMAC. This rule was repealed on February 15, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A112 Facility: 20.2.37 NMAC A. 20.2.37 NMAC Requirement: (NSR 0195M35, Condition A112.A) (1) Section 200.A (Mercaptans) and section 200.B (Hydrogen Sulfide) apply to mercaptan and H ₂ S emissions from the refinery. Section 200.C applies to FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404. and requires an alarm in good working order to signal non-combustion of the gas. (2) Section 201.A (CO), applies to the refinery's FCC regenerator stack. The owner or operator of an existing petroleum processing facility shall not permit, cause, suffer or allow carbon monoxide emissions to the atmosphere from a catalyst cracking recirculation or regeneration unit in excess of 20,000 ppm by volume in the undiluted effluent gas stream or streams. (3) Section 202.C(1) (PM), The owner or operator of a new petroleum processing facility shall not permit, cause, suffer or allow particulate matter emissions to the atmosphere from the catalytic cracking regenerator vessel in excess of 1.0 Kg/1000 Kg (1.0 lb/1000 lb) of coke	1) All flares have alarms indicating loss of flame that are in good working order. 2) The FCC catalyst regenerator exhaust is continuously monitored for CO. 3) The catalytic cracking regenerator is tested annually for PM. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored monthly using 40 CFR 60 Appendix A Method 9. 4) There are no process vents to the atmosphere, so the refinery is not expected to emit ammonia. Any trace ammonia emissions are expected to comply with the 25-ppm limit. 5) Navajo continues to comply with the applicable requirements of NSPS Subpart QQQ at refinery oil/water separators. The oil/water separator is inspected at least semi-annually, and the carbon vapor control is tested at least monthly. 6) Blowdowns are accomplished by venting to flares that are designed to be operated smokelessly. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

burnoff or visible emissions of thirty percent (30%) opacity or greater except for one six-minute average opacity reading in any one-hour period.

(4) Section 203 (Ammonia, undiluted emissions ≤ 25 ppmv) applies to all emission points of the refinery. The owner or operator of a petroleum processing facility shall not permit, cause, suffer or allow ammonia emissions to the atmosphere in excess of 25 ppm by volume in the undiluted effluent gas stream or streams.

(5) Section 204 (Hydrocarbon Separation Facility) applies to all oil/water separators at the refinery. Compliance with this condition is met by complying with the applicable NSPS Subpart QQQ requirements.

(6) Section 205 (Facilities - Storage - Handling - Pumping - Blowdown System) applies to certain of the following: storage tanks for organic compounds, loading and unloading of organic compounds, seals on pumps and compressors, and disposal (flaring) of hydrocarbon gases. The permittee shall not permit, cause, suffer or allow the operation of a blowdown system without disposing of the gases in a manner which will minimize hydrocarbon emission to the atmosphere. If combustion is the means of disposal, it shall be by: smokeless flare; or any other method that is equally effective to achieve complete

combustion. (20.2.37.205.E NMAC) Monitoring: (1) For Units FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404: The permittee shall install and maintain a flare pilot flame monitoring system. (20.2.37.200.A.2 NMAC) (2) A CO CMS has been installed to monitoring the emissions from the FCC. (3) The annual EPA Method 9 Opacity Test and annual Stack test on Unit FCC (lb/hr PM emissions) and the calculated Coke burn rate will be used for the annual determination of pounds of PM per 1000 pounds of Coke burned. (4) None (5) No additional monitoring since compliance is met by complying with the applicable NSPS Subpart QQQ requirements. See other conditions of this permit for applicable NSPS or MACT requirements. (6) Compliance is demonstrated through NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns. Recordkeeping: (1) Pilot flame monitoring records (2) CO CMS measurements	1) All flares have alarms indicating loss of flame that are in good working order. 2) The FCC catalyst regenerator exhaust is continuously monitored for CO. 3) The catalytic cracking regenerator is tested annually for PM. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored monthly using 40 CFR 60 Appendix A Method 9. 4) Not monitoring requirement. 5) Navajo continues to comply with all requirements except for specific deviations as noted elsewhere in this document. 6) Navajo continues to comply with all applicable requirements except for deviations previously reported or identified at the end of this report. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016. 1) Records are maintained in Pi. 2) Records are maintained in Pi. 3) Stack test reports are maintained by the Navajo	☒ Continuous ☒ Intermittent ☒ Continuous ☒ Intermittent	☒ Yes ☐ No ☒ Yes ☐ No	☐ Yes ☒ No ☐ Yes ☒ No
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(3) Copy of annual coke burn rate determination, stack test report, and opacity test report (4) None (5) Applicable NSPS Subpart QQQ requirements (6) Applicable NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns requirements	Environmental Department. 4) No recordkeeping requirement. 5) NSPS QQQ reports are maintained by the Navajo Environmental Department. 6) NSPS K, NSPS Ka, NSPS Kb, NSPS GGGa, NSPS J, NSPS Ja, and MACT CC reports are maintained by the Navajo Environmental Department. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016.			
Reporting: The permittee shall report in accordance with applicable NSPS or MACT requirements and Section B110.	NSPS J, Ja, GGGa, QQQ, and MACT CC reports are submitted semiannually. Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on September 12, 2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A113 Facility: 20.2.38 NMAC A. 20.2.38 NMAC Requirement: 20.2.38 NMAC (Hydrocarbon Storage Facilities, 11/30/95) applies to the refinery as follows: 1. Section 109 (Tank Storage Associated with Petroleum Production or Processing Facility [Sour Hydrocarbon Liquids]) applies to the loading and storing of hydrocarbons containing H₂S. 2. Section 110 (Tank Battery or Storage Facility - Within Municipality [Sour	1) The Artesia Refinery includes storage vessels that store hydrocarbons containing hydrogen sulfide. The vessels comply with the requirements of 20.2.38.109 by using submerged fill. 2) and 3) The vessels comply with the requirements of 20.2.38.110 and 113 by using internal or external floating roofs with the required seals.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Hydrocarbon Liquids)) applies to certain tanks storing sour hydrocarbon liquids whose vapors contain ≥ 24 ppm H₂S. 3. Section 113 (New Tank Battery and the Pecos-Permian Interstate Air Quality Control Region [Sour Hydrocarbon Liquids]) applies to certain tanks storing sour hydrocarbon liquids whose vapors contain ≥ 24 ppm H₂S. (NSR 0195M35, Condition A113.A)				
Monitoring: 1. None 2. and 3. Demonstrated through NSPS K, Ka, Kb, and MACT CC floating roof seal inspection.	2) and 3) Navajo Inspection Department performs seal inspections and maintains those records.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: 1. Records of Tank design showing inlet piping connections. 2. and 3. No additional requirements other than applicable requirements of NSPS and MACT.	1) Records of tank designs are maintained in the Navajo Engineering Library. Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A118 Facility: MACT Subpart UUU A. 40 CFR 63, Subpart UUU FCC, FUG-70-CCR, SRUs 1, 2, and 3 Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart UUU, National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic	For the FCC, Navajo monitors and records the daily average coke burn rate and of the continuously monitored CO emissions. For the CCR, Navajo monitors and records the weekly average ChlorSorb catalyst inlet and outlet chloride content, the ChlorSorb inlet and outlet temperatures, and the CCR firebox temperature. For the SRUs, Navajo monitors and records the SO₂ concentration from the tail gas incinerators.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reforming Units, and Sulfur Recovery Units, for all affected sources shown in Tables 103H&I attached. (63.1560 and 63.1570).				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart UUU.	For the FCC, Navajo monitors and records the daily average coke burn rate and of the continuously monitored CO emissions. For the CCR, Navajo monitors and records the weekly average ChlorSorb catalyst inlet and outlet chloride content, the ChlorSorb inlet and outlet temperatures, and the CCR firebox temperature. For the SRUs, Navajo monitors and records the SO2 concentration from the tail gas incinerators.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart UUU.	Process records are maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart UUU.	Reports required by Subpart UUU were submitted semiannually as follows: 1/30/2019 7/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A119 40 CFR 61 Subpart FF. National Emission Standard for Benzene Waste Operations A. 40 CFR 61 Subpart FF, National Emission Standard for Benzene Waste Operations (Units subject in Table 103.C & G) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 61, Subpart FF, National Emission Standard for Benzene Waste Operations for the affected sources in Tables 103.C, G.	The refinery complies with the applicable requirements of NESHAP Subpart FF. Because the refinery's total annual benzene (TAB) quantity is less than 10 Mg/yr, none of the standards in this regulation apply.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply	The refinery complies with the applicable	☐ Continuous	☒ Yes	☐ Yes

with the applicable monitoring and testing requirements of 40 CFR 61, Subpart FF.	requirements of NESHAP Subpart FF. Because the refinery's total annual benzene (TAB) quantity is less than 10 Mg/yr, none of the standards in this regulation apply.	☒ Intermittent	☐ No	☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 61.356.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 61.357.	Navajo submitted the annual TAB report. 03/28/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines A. Maintenance and Repair Monitoring (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901; Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901) Requirement: These units are subject to Title V since they are subject to NSPS and/or MACT requirements. No emission limits were established since their emissions are small. The permittee shall ensure these units are properly maintained and repaired.	Navajo complies with MACT Subpart ZZZZ. Unit M-8010 was installed 11/04/2013. The engine was operated a total 5.1 hours during the reporting period.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events: (1) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period. (2) Unscheduled repairs that require a unit to be taken out of service for more than two hours in any twenty-four hour	Navajo complies with MACT Subpart ZZZZ. 1) and 2) Unit M-8010 operating hours are monitored. the unit was not taken out of service greater then two hours in any twenty-four hour period.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

period.				
Recordkeeping: The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.	Navajo complies with MACT Subpart ZZZZ. Unit M-8010 is equipped with a non-resettable run-time meter. Navajo keeps quarterly rolling annual total hours on file.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines B. 40 CFR 63, Subpart ZZZZ (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901) (Units subject in Table 103.J) Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 63, Subpart ZZZZ and the permittee shall comply with all applicable requirements of Subpart A and Subpart ZZZZ.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart A and Subpart ZZZZ.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart ZZZZ, including but not limited to 63.6655 and 63.10.	Navajo complies with Subpart ZZZZ.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart A and ZZZZ, including but not limited to 63.6645, 63.6650, 63.9, and 63.10.	Reports required by Subpart ZZZZ were submitted semiannually as follows: 1/30/2019 7/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A201 Engines C. 40 CFR 60, Subpart IIII (Diesel Engines subject in Table 103.J Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 60, Subparts A and IIII and shall comply with the notification requirements in Subpart A and the specific requirements of Subpart IIII.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4211.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with all applicable reporting requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.	Navajo complies with Subpart IIII.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks A. NSPS Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11,	Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the affected storage tanks, except for inspections listed as deviations in previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

1973, and Prior to May 19, 1978 (Tanks subject in Table 103.C)	temperature as required.			
Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & K for the affected sources in Table 103.C.				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart K.	Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the affected storage tanks, except for inspections listed as deviations in previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart K.	Navajo maintains records at the Environmental office.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart K.	Navajo submits notifications of seal inspections to the Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks B. NSPS Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 (Tanks subject in Table 103.C) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Ka for the affected sources in Table 103.C.	Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the affected storage tanks, except for inspections listed as deviations in previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing	Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the affected storage tanks, except for inspections	☐ Continuous	☒ Yes	☐ Yes

requirements of 40 CFR 60, Subpart Ka.	listed as deviations in previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required.	☒ Intermittent	☐ No	☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ka.	Navajo maintains records at the Environmental office.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ka.	Navajo submits notifications of seal inspections to the Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks C. NSPS Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984" (Tanks subject in Table 103.C) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Kb for the affected sources in Table 103.C.	Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the processes shown in Table 103 B, C, D, G, except for deviations previously reported or identified at the end of this report. Fugitive components subject to these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the affected storage tanks, except for inspections listed as deviations in previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. The loading rack subject to portions of MACT Subpart R incorporated by reference into MACT CC is equipped with a carbon adsorption system monitored by a CMS.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Kb.	Fugitive components subject to these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

	The loading rack subject to portions of MACT Subpart R incorporated by reference into MACT CC is equipped with a carbon adsorption system monitored by a CMS.			
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Kb.	Navajo maintains records at the Environmental office.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Kb.	Navajo submitted Subpart CC reports semiannually as follows: 2/28/2019 8/22/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks D. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Tanks subject in Table 103.C)	Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the affected storage tanks, except for inspections listed as deviations in previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Table 103.C attached. (63.640).	Navajo continues to comply with the applicable requirements of MACT Subpart CC as applicable to the affected storage tanks, except for inspections listed as deviations in previously submitted reports. External and internal floating roof tank seals are periodically inspected as required. Records are maintained of the materials stored and the storage temperature as required. Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply	Navajo maintains records at the Environmental	☐ Continuous	☒ Yes	☐ Yes

with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☒ Intermittent	☐ No	☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Navajo maintains records at the Environmental office, with the on-site LDAR contractor, and with Holly Energy Partners (HEP) for the gasoline loading rack.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2019 8/22/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A203 Tanks E. Tank Throughput, Temperature, and VOC and H ₂ S Limits (Units shown in Tables 106.B & C) Requirement: Compliance with the allowable throughput limits and emission limits in Table 106.D & E shall be demonstrated by not exceeding the monthly rolling 12-month total throughput to the unit(s) of gallons per year (barrels/year) shown in Table 106.D and not exceeding the allowable vapor pressure listed in Tables 106.B & C.	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall monitor the monthly total throughput, maximum temperature once per month and the vapor pressure of each tank.	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall record the monthly total throughput of liquids and the vapor pressure of each tank. Each month, during the first 12 months of monitoring, the permittee shall	Navajo complies through Pi data.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

record the cumulative total liquid throughput and vapor pressure and after the first 12 months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total liquid throughput and the vapor pressure of each tank. The permittee has calculated the VOCs and H₂S annually based on the 12-month total. Tank breathing and working emissions were calculated using the USEPA Tanks program Version 4.0.9.d or more current. Emission rates computed using the same parameters, but with a different Department approved algorithm that exceed these values will not be deemed non-compliance with this permit. Records shall also be maintained in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies through Pi data.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A204 Heaters/Boilers A. Operational Inspection (All heaters/boilers in Tables 103.E & 104.A) Requirement: Compliance with the allowable emission limits in Table 106.A shall be demonstrated by performing periodic inspections to ensure proper operations.	Inspections were performed to ensure proper operation.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct annual operational inspections to determine that the heater(s)/boiler(s) are operating properly. The operational inspections shall include operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the heater/boiler manufacturer, and indications based on operational experience with the/these unit(s).	Inspections were performed to ensure proper operation.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the heater(s)/boiler(s) into compliance. The permittee shall maintain records in accordance with Section B109.	Inspection results are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall report in accordance with Section B110. Within ninety (90) days of permit issuance, the permittee shall submit for Department approval a procedure which the permittee will use to carry out the operational inspections. The permittee may at any time submit revisions for Department approval.	Navajo submitted MACT Subpart DDDDD reports semiannually as follows: 1/30/2019 7/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers B. Periodic Emissions Tests (Units Heaters H-0019, H-0020, H-0362, H-0363, H-0364, H-2421, H-3402, and H-3403) Requirement: Compliance with allowable emission limits in Table 106.A shall be demonstrated by performing periodic emissions tests. (NSR 0195M35, Condition A204.A, revived)	Testing was performed as follows: H-0019 02/20/2019 H-0020 02/20/2019 H-0362 02/14/2019 H-0363 02/14/2019 H-0364 02/14/2019 H-2421 04/18/2019 H-3402 02/15/2019 H-3403 02/14/2019 All heaters were within allowable emission limits.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct annual periodic portable analyzer emission tests or EPA Reference Method Tests for NO_x and CO. Test results that demonstrate compliance with the CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits. Section B108 General Monitoring Requirements apply to this condition. The permittee shall meet the testing requirements in Section B111.	Testing was performed as follows: H-0019 02/20/2019 H-0020 02/20/2019 H-0362 02/14/2019 H-0363 02/14/2019 H-0364 02/14/2019 H-2421 04/18/2019 H-3402 02/15/2019 H-3403 02/14/2019 All heaters were within allowable emission limits.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: Records of periodic	Periodic emission test results are maintained by	☐ Continuous	☒ Yes	☐ Yes

emission tests shall include the flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure NO_x, CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results. Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.	Navajo Environmental Department.	☒ Intermittent	☐ No	☒ No
Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for NO_x and CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.	All testing reports were submitted to the NMED at <stacktest.aqb@state.nm.us>.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers C. Summary of Compliance Methods for Heaters and Boilers for Table 106.A, 20.2.33 NMAC, 20.2.37 NMAC (Boilers and Heaters in Tables 103.E and 104.A) Requirement: (NSR 0195M35, Condition A204.B)	Navajo complies with these requirements, except for deviations previously reported or identified at the end of this report.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

(1) Demonstrate compliance with Table 106.A Allowable Emissions. (2) 20.2.33 NMAC (Gas Burning Equipment – Nitrogen Dioxide, 10/31/02) applies to existing and new gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year. It applies to process heaters identified in Tables 103.E and 104.A. These units shall be equipped with burners emitting less than 0.2 lb NOx per MM Btu. Compliance with 20.2.33 NMAC is demonstrated by compliance with the NOx lb per MM Btu limits in Table A106.A.				
Monitoring: (1) The permittee shall monitor the fuel usage of the all boilers and heaters. The fuel usage shall be monitored for specific heaters and boilers subject to 20.2.33 NMAC. (2) For specific heaters and boilers subject to 20.2.33 NMAC, the permittee shall collect and analyze samples of the refinery fuel gas at least once per week. The refinery fuel gas analysis shall include the composition of the refinery fuel gas, the gross heating value, and the net heating value. (3) See Condition A110.A for H₂S monitoring requirements. (4) All process heaters and boilers shall fire only refinery gas in accordance with Application, Section 2, Table 2-J. (5) For those combustion sources required	1) Fuel use measured by Pi. 2) Refinery fuel gas is analyzed at least once per week. 3) Refer to response for Section A100.A 4) No combustion sources fire only purchased gas. 5) The following combustion sources have CMS that are recertified annually as follows: B-0007 03/19/2019 B-0008 03/19/2019 B-0009 03/20/2019 H-9851 03/21/2019 H-2501 02/19/2019 6) Test results referenced in Condition A104.B meet this requirement. 7) Navajo complies through Pi data. 8) Navajo Refinery is no longer affected by 20.2.37 NMAC. This rule was repealed on	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

to have a continuous monitoring system (CMS) (listed in (a) below), the permittee shall install, certify, calibrate, maintain, and operate the CMS for each required pollutant in accordance with the applicable requirements of 40 CFR 60 or 63. The hourly average CMS data, the refinery fuel gas usage data, and the refinery fuel gas composition data shall be used to estimate the actual emission rates. (a) The following CMS shall be recertified annually: • Boiler B-0007 NOx and O₂ CMS • Boiler B-0008 NOx and O₂ CMS • Boiler B-0009 NOx and O₂ and CO₂ CMS • H-9851 NOx O₂ CMS • H-2501 NOx O₂ CMS (6) For those combustion sources required to conduct periodic stack exhaust testing as stated in Condition A204.B, the test reports shall be used to demonstrate compliance with the NOx, CO, and VOC limits in Table 106.A. (7) For those units and pollutants that are not required to have a CMS or a periodic stack test, (Units H-009, H-0011, H-0018, H-0028, H-0030, H-0040, H-0303, H-0312, H-0352, H-0353, H-0354, H-0355, H-0421, H-0464, H-0473, H-0600, H-0601, H-8801, H-8802, and H-3101) the permit application emission factor, the fuel usage, and the refinery fuel gas	September 12, 2016.			
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analysis shall be used to calculate the emission rates of NOx, CO, VOC, and PM. (8) Compliance with the particulate emission limitation set forth in 20.2.37.202.A NMAC shall be determined as specified in 20.2.37.202.D(3) NMAC. Combustion of only gaseous fuel has been approved by the Department as the compliance method under 20.2.37.202.D(3) NMAC.				
Recordkeeping: The permittee shall maintain the following records: (1) By March 31, the annual fuel usage for all boilers and heaters for the previous calendar year. (2) By March 31, the average fuel composition and heating value for all boilers and heaters for the previous calendar year. (3) For those units required to have a CMS (B-0007, B-0008, B-0009, H-9851 and H-2501), the CMS hourly average data. (4) For those units required to conduct periodic stack exhaust testing, the periodic test report. (5) For all boilers and heaters, a summary spreadsheet shall be maintained comparing the actual annual emissions with the allowable emission limits expressed in tons per year and lb/MMBtu using the appropriate method of compliance demonstration. This spreadsheet shall be updated by March 31	1) Fuel usage records are maintained in Pi. 2) Fuel composition records are maintained in Pi. 3) CMS data is maintained on Pi. 4) Test reports are maintained by Navajo Environmental Department. 5) The summary spreadsheet is included in the Emission Inventory.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

of each year for the previous calendar year.				
Reporting: The permittee shall report in accordance with Sections B110.	Reports required by B110 are submitted as necessary.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers D. Consent Decree NOx Emission Limits for Boilers B-0007, B-0008, and B-0009 (new as of 2013) Requirement: (NSR 0195M35, Condition A204.C) (1) In accordance with the Consent Decree lodged December 20, 2001, NOx emissions from boilers B-0007 (no later than December 31, 2002), B-0008 (no later than December 31, 2003), and B-0009 (new as of 2013) shall not exceed the limit in Table 106.A during any hourly rolling 3-hour period. Demonstration of compliance with the NOx limit for B-0007, B-0008, and B-0009 shall be established by averaging the CMS Data over any 3-hour period and comparing the average concentration to the parametric limit of ≤ 42.1 ppm NOx, corrected to 6.1% O ₂ as determined by the CMS. (CD¶16.D) This also satisfies the requirement in 20.2.33.108.A NMAC that NOx emissions shall not exceed 0.2 lb/MMBTU. (2) Navajo is authorized to operate all	1) Data maintained in Pi. 2) No requirement.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

three boilers (B-0007, B-0008, and B-0009) simultaneously as needed.				
Monitoring: For the Controlled Boilers (B-0007, B-0008) as listed in the Consent Decree and B-0009 (new as of 2013), continuous compliance with their respective NO _x permit emissions limits shall be demonstrated by monitoring as follows: (CD¶16.C) (1) For boilers (B-0007, B-0008, and B-0009) with a heat input capacity greater than 150 MMBTU/hr of HHV, the permittee shall install or continue to operate CMS to measure NO _x and O ₂ . Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specification test of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable; (CD¶16.C.i)	1) B-0007, B-0008, & B-0009 have CMS installed and data maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall keep records of the CMS recertification's monitored in Condition A204.B, Summary of Compliance.	CMS recertifications are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Reporting: The permittee shall report in accordance with Section B110.	All testing reports were submitted to the NMED at <stacktest.aqb@state.nm.us>.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers E. NOx Monitoring and Testing for Controlled Heaters Subject to the Consent Decree (Units H-0020, H-0352, H-0353, H-0354, H-0600, and H-0601) Requirement: For the Controlled Heaters as listed in the Consent Decree, continuous compliance with all NOx emissions limits shall be demonstrated by monitoring as follows. (CD¶16.C) (NSR 0195M35, Condition A204.D)	CMS installed and data maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: (1) For heaters with a heat input capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV), Navajo shall (a) install or continue to operate CMS to measure NOx and O ₂ by no later than the date of the installation of the applicable NOx Control Technology on the heater or boiler; or (b) submit for EPA approval, by no later than 60 days after the date of installation of the applicable NOx Control Technology on the heater or boiler, a proposal for monitoring based on operating parameters, including but not limited to, firebox temperature, air preheat temperature, heat input rate, and combustion O ₂ .	1) H-9851 is equipped with NOx and O ₂ CMS that is certified, calibrated, maintained and operated in accordance with the referenced requirements. 2) Referenced heaters meet these requirements. All initial performance tests have been reported. 3) Referenced heaters were initially tested and are tested annually. H-0601 is monitored weekly using a handheld portable analyzer.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Navajo shall evaluate the necessity of using firebox or bridgwall temperatures and additional operating parameters and agrees to use such parameters as a means of monitoring performance where Navajo and EPA mutually-agree to their effectiveness. (CD¶16.C.ii).

As of January 23, 2014 (notarized date of application), there are no heaters or boilers at the Artesia Refinery with a capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV) subject to Monitoring requirement (1).

(2) For heaters with a heat input capacity of equal to or less than 100 MMBTU/hr of HHV, the permittee shall conduct an initial performance tests for NOx. The results of these tests shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. (CD¶16.C.iii). This condition applies to the following heaters:

- Heaters H-0352, H-0353, and H-0354
- Heater H-0020
- Heaters H-0600 and H-0601

The permittee has completed all of the initial performance tests.

(3) For heater H-0601 compliance shall be demonstrated by continuously

monitoring stack oxygen (O ₂) to maintain a 3-hour average below 6.0 vol%. As a further check of compliance, Navajo shall monitor stack NO _x at least twice a month using a portable analyzer to assure that the measured NO _x value does not exceed the compliance threshold of 38 ppmv NO _x . (CD 16.C.iii)				
Recordkeeping: (1) The permittee shall keep records of the Fuel firing rates and Sulfur limits monitored for Condition A110.A. (2) The permittee shall keep records of the initial performance tests. (3) The permittee shall keep records of the stack oxygen monitoring and the portable analyzer tests.	1) Fuel firing rate records are maintained in Pi. 2) and 3) Test records are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110. Condition B.111.D(7) does not apply to portable analyzer tests.	Reports required by B110 are submitted as applicable.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers F. NO _x Monitoring and Testing for Heaters permitted after the Consent Decree (Units Heaters H-0019, H-0362, H-0363, H-0364, H-2421, H-3402, H-3403, H-2501, H-8801/8802, and H-9851) Requirement: For the Heaters permitted after the Consent Decree, continuous compliance with their respective NO _x permit emissions limits in Table 106.A shall be demonstrated by monitoring as	Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

follows. (NSR 0195M35, Condition A204.E)				
Monitoring: (1) For heaters with a heat input capacity greater than 150 MM Btu/hr (LHV Basis), the permittee shall install and operate CMS to measure NO_x and O₂ by the startup date of each heater. Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specifications of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable. Condition A204.F(1) applies to heater H-9851. (2) For heaters with a heat input capacity of equal to or less than 150 MM Btu/hr (LHV) but greater than 100 MM Btu/hr (LHV), Navajo shall: (a) install and operate CMS to measure NO_x and O₂ by the startup date of each heater; or (b) submit to the Permit Program Manager for NMED approval, by no later than 90 days after the startup date of each heater, a proposal for monitoring based on operating parameters. Operating parameters	1) H-9851 has a CMS installed and data maintained in Pi. 2) H-2501 & H-8801/8802 has a CMS installed and data maintained in Pi. 3) Initial performance tests were completed as required. 4) Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

to consider include, but are not limited to, firebox temperature, air pre-heat temperature, heat input rate, and combustion O₂. Navajo agrees to use such parameters as a means of monitoring performance. Condition A204.F(2) applies to heaters H-2501 and H-8801/8802 (3) For heaters with a heat input capacity of equal to or less than 100 MM Btu/hr (LHV basis), the permittee shall conduct an initial performance test by no later than 180 days after the startup date. The results of this test shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. This condition applies to the following heaters: • Heaters H-0362, H-0363, H-0364, and H-2421 • Heater H-0019 • Heaters H-3402 (AMP approved by EPA, see (4)) , initial performance test completed on July 10, 2013 • Heater H-3403, initial performance test completed on April 30, 2013 (4) US EPA has approved an Alternative Monitoring Plan (AMP) for Unit H-3402 for utilizing the oxygen monitor on the H-3402 Unit 34 Hydrocracker Reboiler 1				
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as a parametric means for demonstrating compliance with NSPS Ja, NO_x monitoring via a CMS. In accordance with the AMP, the permittee shall accomplish the following: (a) Install flow indication on the fuel line to provide historical data of the fuel to the Mild Hydrocracker (Unit 34) by January 1st, 2015. (b) Monitor the process historical data of the HEP purchased natural gas pressure, and the high pressure fuel balance drum (D-0770). (c) Upgrade the existing the Mild Hydrocracker (Unit 34) Reboiler Heater (H-3402) oxygen monitor to perform daily calibrations as required in 40 CFR60.13(d)(1). (Note that the sample placement does not conform to CMS requirements for process reasons). (d) Conduct biennial performance tests according to the requirements in 40CFR 60.104a(i). (e) Establish a maximum or curve excess O₂ operating limit – (MOPV) as required under 40 CFR60.107a(c)(6) utilizing the existing monitor. (f) Include Reboiler Heater (H-3402) hours of refinery fuel gas usage and any deviations during such time as required by 40 CFR 60.7 for				
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periodic reporting.				
Recordkeeping: (1) The permittee shall keep records of the monitoring proposals submitted to the Permit Program Manager for approval and whether the submittal was approved. (2) The permittee shall keep records of the CMS data, calibration, and recertification's monitored in Condition A204.A, Summary of Compliance. (3) The permittee shall keep records of the performance tests. (4) The permittee shall keep records of the implementation of the AMP and all required monitoring specified in the AMP.	1) Records are maintained by the Navajo Environmental Department. 2) CMS data maintained in Pi. 3) Performance tests are maintained by the Navajo Environmental Department. 4) the AMP is maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Reports required by B110 are submitted as applicable.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers G. NSPS Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (Boilers and heater subject in Table 103.E) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Db (NOx-60.44b, SO ₂ -60.42b, & PM-60.43b) for the affected sources in Table 103.E.	Heater H-2501 and Boilers B-0007, B-0008, and B-0009 each have a NOx CEMS as required by NSPS Subpart Db.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.48b, Subpart Db.	Heater H-2501 and Boilers B-0007, B-0008, and B-0009 each have a NOx CEMS as required by NSPS Subpart Db.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.49b, Subpart Db.	NOx records are maintained in Pi. Test records are maintained by the Navajo Environmental Department.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.49b, Subpart Db.	Navajo submitted NSPS Subpart Db reports semiannually as follows: 1/30/2019 7/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.45b and 60.46b.	Navajo complies with the requirements of the Compliance Testing.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers H. NSPS Subpart Dc, Standards of Performance for Small Industrial-Commercial - Institutional Steam Generating Units (Boilers and heater subject in Table 103.E.) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Dc (NOx-60.44c, SO ₂ -60.42c, & PM-60.43c) for the affected sources in Table 103.E.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.47c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.48c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.48c, Subpart Dc.	Navajo complies with the requirements of steam generating units.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.44c and 60.45c.	Navajo complies with the requirements of steam generating units.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers I. NSPS Subpart J, Standards of Performance for Petroleum Refineries (Boilers and heater subject in Table 103.E) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & J for the affected sources in Table 103.E.	Navajo continues to comply with the applicable monitoring requirements of NSPS Subpart J as applicable to the affected heaters, boilers, SRU1/SRU2, and the FCC shown in Table 103E. The refinery fuel gas is continuously monitored for H2S content on a 3-hour rolling average basis. The SRU1/SRU2 tail gas incinerator is continuously monitored for SO2 content, corrected to 0% O2, on a 12-hour rolling average basis. The FCCU Catalyst Regenerator Scrubber exhaust is continuously monitored for SO2 and CO. PM is monitored annually. Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored monthly using 40 CFR 60 Appendix A Method 9.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60,	All of the continuous monitors are operated, maintained, and certified as required.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Subpart J.				
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart J.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart J.	Navajo submitted NSPS Subparts J reports semiannually as follows: 1/30/2019 7/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A204 Heaters/Boilers J. NSPS Subpart Ja, Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007 (Boilers and heater subject in Table 103.E) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Ja for the affected sources in Table 103.E.	Navajo continues to comply with the applicable monitoring requirements of NSPS Subpart Ja as applicable to the affected heaters, SRU3, and flares as shown in Table 103E. The refinery fuel gas is continuously monitored for H2S content on a 3-hour rolling average basis. The flares met the minimum heating value, tip velocity, and visible requirements as documented by the compliance testing detailed in previous responses. The SRU3 tail gas incinerator is continuously monitored for SO2 content, corrected to 0% O2, on a 12-hour rolling average basis.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ja.	All of the continuous monitors are operated, maintained, and certified as required.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ja.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ja.	Navajo submitted NSPS Subparts Ja reports semiannually as follows: 1/30/2019 7/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers K. BACT NOx Limit, Continuous Monitoring System (CMS) (Unit B-0009) Requirement: The permittee shall comply with the allowable emission limits in Table 106.A and Condition A106.E that represent NOx BACT limits for the BACT requirements. (NSR 0195M35, Condition A204.I and revised)	Navajo complies with the BACT requirements for B-0009, except for deviations previously reported or identified at the end of this report.	☒ Continuous ☐ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

Monitoring: (1) The Permittee shall comply with the CMS monitoring as detailed in Condition A204.D. (2) The permittee shall conduct an EPA Method test within six (6) months of permit issuance using EPA reference test methods in 40 CFR 60 for NO_x and O₂ and CO₂. Data from the CMS RATA testing may be used to satisfy this testing requirement.	1) Navajo complies with Conditon A204.D. 2) B-0009 went into service on 4/14/2015. The initial RATA compliance test was completed on 11/06/2015, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: (1) The permittee shall keep records of the CMS initial calibration and recertification monitored in Condition A204.B, Summary of Compliance. (2) Records of EPA Methods tests shall be maintained for the Boiler.	1) Navajo complies with A204.B. 2) The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: (1) The permittee shall report in accordance with Section B110, to include the CMS initial calibration and recertification. (2) The permittee shall summarize in tabular form the results of the EPA Methods tests for NO_x and O₂ and CO₂, specifying the emissions rates in pounds per hour and lb/MMBtu. The table shall include the average concentration of all relevant pollutant species.	1) Navajo complies with B110. 2) The initial compliance test was completed on 11/06/2015, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A204 Heaters/Boilers L. MACT Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters (Boilers and heater subject in Table 103.E) Requirement: The units are subject to 40 CFR 63, Subpart DDDDD and the permittee shall comply with the applicable requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Navajo performs the annual tune up required by MACT Subpart DDDDD.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Navajo performs the annual tune up required by MACT Subpart DDDDD.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart A and Subpart DDDDD.	MACT Subpart DDDDD reports were submitted semi-annually as follows: 01/30/2019 07/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers M. EPA Methods Test (Unit B-0009) Requirement: Compliance with CO BACT Limit and allowable emission limits in Table 106.A shall be demonstrated by emissions tests ensuring the unit is operating correctly and within desired parameters. (NSR 0195M35, Condition A204.K and revised)	Navajo complies with A204.K. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Monitoring: The permittee shall conduct an EPA Method test no later than 180 days after permit issuance using EPA reference test methods in 40 CFR 60. Emission testing is required for CO. Test results that demonstrate compliance with the CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits.	Navajo complies with A204.B. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: Records of EPA Methods tests shall be maintained for the Boiler.	Navajo complies with A204.B. The initial compliance test was completed on 11/06/2015.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the requirements of Section B111.D and summarize in tabular form the results of the EPA Methods test for CO, specifying the emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species.	The initial compliance test was completed on 11/06/2015, except for deviations previously reported or identified at the end of this report. MACT Subpart DDDDD reports were submitted semi-annually as follows: 01/30/2019 07/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers N. Verification of Energy Efficiency BACT Control Requirements (Unit B-0009) Requirement: The permittee shall comply with the allowable emission limits and the following BACT requirements. (NSR 0195M35, Condition A204.L and revised) 1. Operation and Maintenance (BACT #6): a. Periodic Boiler Tuning – The boiler shall be tuned	Navajo complies with these conditions. The most recent periodic inspection and tune-up was completed on 04/09/2019.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

annually to maintain optimal thermal efficiency. b. Periodic Boiler Inspection and Repair for air leakage – The boiler shall be inspected annually to maintain optimal thermal efficiency. c. Periodic Boiler Inspection and Cleaning for tube fouling – The boiler shall be inspected annually and necessary cleaning performed to prevent tube fouling. 2. Next Generation Ultra-low-NO_x high efficiency burners (NGULNB) (#5) shall be installed in the boiler design. 3. Flue gas economizer (BACT #2) – A heat exchanger shall be installed to recover heat from the exhaust gas to preheat incoming boiler feedwater to attain industry standard performance (IMO) for thermal efficiency. 4. Boiler insulation (BACT #4) – The boiler shall be designed and installed with boiler insulation to an optimum insulation thickness and material to achieve maximum energy efficiency. The OMP shall include the insulation design and maintenance schedule. 5. Oxygen Trim Control (BACT #7) – An Oxygen Trim Control system shall				
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be designed and installed on the boiler to monitor oxygen concentration in the flue gas, and the inlet air flow is adjusted to maximize thermal efficiency. 6. Boiler blowdown minimization using manual analysis (BACT #3) – The Operation and Maintenance Plan (OMP) shall include methods and procedures to minimize blowdowns from the boiler to keep emissions at a minimum. 7. Condensate recovery (BACT #8): Condensate shall be recovered as represented in the application to achieve maximum energy efficiency. Condensate recovery shall be maximized through annual steam trap inspections and repairs.				
Monitoring: The Permittee shall develop an Operation and Maintenance Plan (OMP) to include at least the requirements listed above within 12 months of commencement of operations. The Permittee shall review the OMP annually to ensure it's effectiveness in meeting the requirements above and recommend changes.	Navajo complies with these conditions. The initial compliance test was completed on 11/06/2015. The OMP was submitted on 04/12/2016.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: (1) Records demonstrating compliance with the energy efficiency requirement shall be recorded and summarized in the OMP. (2) The Permittee shall maintain a copy of the OMP onsite and available for	Navajo complies with these conditions.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

inspection.				
Reporting: (1) The permittee shall notify the Department when the OMP has been prepared and available for review. (2) The permittee shall report in the semi-annual report a summary of actions covered in accordance with the OMP, and in accordance with Section B110.	Navajo complies with these conditions. The OMP was updated during this reporting period. Reports required by B110 are submitted as applicable.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A204 Heaters/Boilers O. Periodic Emissions Tests (Unit B-009, CO BACT Limit) Requirement: Compliance with the CO BACT Limit and allowable emission limits in Table 106.A shall be demonstrated by performing periodic emissions tests.	Navajo complies with these conditions.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall conduct periodic portable analyzer emission tests or EPA Reference Method Tests for CO at the intervals in the following schedule: First Test --- in accordance with the schedule in Section B111.A(2). Second Test --six (6) months after the first test is completed. All subsequent testing shall be done annually. Section B108 General Monitoring Requirements apply to this condition. The permittee shall meet the testing requirements in Section B111.	Navajo complies with these conditions. Periodic test completed on: 03/20/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: Records of periodic emission tests shall include the boiler fuel	Data is maintained in Pi.	☐ Continuous	☒ Yes	☐ Yes

flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results. Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.		☒ Intermittent	☐ No	☒ No
Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.	Reports required by B109, B110, and B111 are submitted as applicable.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A206 Flares A. FL-0400, FL-0403 Requirement: (NSR 0195M35, Condition A206.A) (1) An alarm system in good working order shall be connected to Flare FL-0403 which will signal non-combustion of the gas. (2) The acid gas flow meter for flare FL-0400 or FL-0403 shall be operated and calibrated at a frequency and by the procedure specified by the manufacturer. A chart recorder or data logger (electronic storage) shall continuously record the amount of gas measured by the flow meter.	1) FL-0403 (ALKY/CCR) is equipped with a flare alarm. 2) The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 is monitored during acid gas flaring by a flow meter. No acid gas flaring has occurred since September 5, 2006.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 as required under A105.B shall be monitored during flaring by a flow meter. The flow meter shall be operated continuously 24 hours per day, 365 days per year except for periods of flow meter maintenance or repair. The upper range of the flow meter shall be sufficient to record the highest expected flow rate of fuel gas sent to flare. The reading of this flow meter and the flow meter to measure acid gas flow as required under Condition A105.B shall be used to determine compliance with	The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 is monitored during acid gas flaring by a flow meter.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

emission limits at A106.C.				
Recordkeeping: (1) Records of all periods of operation during which the flare pilot flame is absent as included in the MACT subpart CC semi-annual reports. (2) Records of the quantity of supplemental fuel used during each acid gas flaring incident to provide supplemental heat to flare FL-0400 or flare FL-0403. (3) The permittee shall maintain records from the flow meter of the amount of gas sent to the flare.	1) Flare pilot outages are included in the MACT CC semiannual reports dated as follows: 02/28/2019 08/22/2019 1) and 2) Records of supplemental fuel use and flare pilot flame are maintained in Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	1) Flare pilot outages are included in the MACT CC semiannual reports dated as follows: 02/28/2019 08/22/2019	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A206 Flares B. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Flares listed in Table 103.K) Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Tables 103.B. (63.640).	Navajo complies with all the requirements of MACT CC as shown for all affected sources in table 103.B. Navajo uses a third party LDAR contractor, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	Navajo complies with all the requirements of MACT CC as shown for all affected sources in table 103.B. Navajo uses a third party LDAR contractor.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

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Monitoring: The permittee shall comply with the applicable monitoring requirements of NSPS Subpart J or Ja.	All of the continuous monitors are operated, maintained, and certified as required.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain records in accordance with the applicable requirements of NSPS Subparts J and Ja.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J and Ja.	Navajo submitted NSPS Subparts J and Ja reports semiannually as follows: 1/30/2019 7/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A207 Sulfur Recovery Plant (SRP), Tail Gas Incinerator (TGI) B. The following BACT SO ₂ work practices and equipment shall apply to the SRP (SRU3/TGTU3/TGI3): (PSD-NM-0195-M25) Maintain at least 98% SRP on-stream operations. This includes curtailing refinery operations as necessary when SRU capacity is limited during planned startup, shutdown, and maintenance events. Maintain adequate SRP excess capacity to reduce the frequency and quantity of refinery excess SO ₂ emissions. After the refinery expansion project proposed units are constructed, the proposed SRU3 will provide at least 25% excess capacity. Continue to maintain and use a sulfur shedding plan to prevent or reduce acid gas flaring events	Navajo has installed BACT, and implemented the work practices, as described in this permit condition.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

from refinery upsets. An acid gas flaring event is defined as excess SO₂ emissions greater than 500 pounds in a 24-hour period. The plan shall state specific actions that may be taken to reduce or prevent acid gas flaring. The actions taken during any event will be based on the refinery operators' discretion, considering safety and other factors related to prudent operation. This plan is subject to review by NMED or EPA, and shall be amended upon written request by NMED or EPA. The sulfur shedding plan may include, but is not limited to the following options: (a) Store sour water to reduce acid gas generation from the sour water strippers (b) Reduce the operating rate of one or more amine strippers to lower the acid gas generation rate (c) Reduce one or more hydrotreating unit throughput rates to lower acid gas generation rate Use hydrogen, when available, as SRU fuel during startup and hot				
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standby to minimize carbon deposits on the SRU catalysts. During startup and shutdown and to the extent practicable, process vessels shall be depressurized into other process equipment rather than venting to a flare. The permittee shall document instances when this is not practicable.				
A207 Sulfur Recovery Plant (SPR), Tail Gas Incinerator (TGI) C. SRU1, SRU2, and SRU3 Requirement: (NSR 0195M35, Condition A207.C and revised) The permittee shall demonstrate compliance with the H₂S, SO₂, lb/hr, tpy emission limits by completing the following requirements, monitoring, recordkeeping and reporting: (1) A flow meter shall be installed, operated, calibrated, and maintained on the sour water stripper streams that go to the SRUs. (2) An SO₂ CEMS and flow meter shall be installed on the SRU1/SRU2 and SRU3 incinerator stacks. In addition, these units shall be equipped with instruments to measure and record sulfur concentration and flow rates of the gas streams into SRU1, SRU2, and SRU3.	1) A flow meter is in place on the sour water stripper streams into Units SRU1, SRU2, and SRU3. 2) The SO₂ CEMS and flow meter on the SRU1/SRU2 and SRU3 incinerator stacks, and the instruments used to measure sulfur concentration and flow rates of the gas streams into SRU1, SRU2, and SRU3, are calibrated and maintained at a frequency and method specified by the manufacturer, or as dictated by operating conditions. The SO₂ CEMS follow the quality assurance and quality control procedures in 40 CFR 60 Subpart J and Appendix F. 3) The minimum acceptable level of data capture for all instruments measuring flow and concentration of sulfur streams into the SRU1, SRU2, and SRU3 including the CEMS and flow meters on the incinerator stacks shall be at least 90% for each month. The 10% lost data includes periods when the concentration and corresponding flow are not being measured as a result of calibrations or breakdowns. The data capture is reported in the semi-annual NSPS Subparts J and Ja reports.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

The CEMS, flow meters, and data loggers shall be calibrated and maintained. In addition, the calibration of the SO₂ CEMS shall follow the quality assurance and quality control procedures in 40 CFR 60 Subpart J or Ja and Appendix F. (3) The minimum acceptable level of data capture for all instruments measuring flow of sulfur streams into the SRU1, SRU2, and SRU3, as well as the CEMS and flow meters on the incinerator stacks, shall be at least 90% for each semi-annual period. The 10% lost data will include all periods when the concentration and corresponding flow are not being measured as a result of calibrations or breakdowns.				
Monitoring: The gas stream feeding SRU1, SRU2, and SRU3 from the amine regeneration units and the sour water stripper shall be tested at least monthly for H₂S concentration. The permittee shall monitor the following: (1) Flow rate of sour water stream to SRUs, (2) SO₂ concentration in SRU incinerator stacks and (3) Flow rate of the SRU incinerator stacks.	1), 2), and 3) Navajo complies with the requirements of this permit condition.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Recordkeeping: The permittee shall maintain records in accordance with the applicable requirements of NSPS Subparts J or Ja and MACT Subpart UUU. The permittee shall also keep records of the following: (1) Flow rate of sour water stream to SRUs, (2) SO₂ concentration in SRU incinerator stacks and (3) Flow rate of the SRU incinerator stacks.	1), 2), and 3) Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☒ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J or Ja, MACT Subpart UUU, and Section B110.	Navajo submitted NSPS Subparts J, Ja and MACT Subpart UUU reports semiannually as follows: 1/30/2019 7/30/2019	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
A207 Sulfur Recovery Plant (SPR), Tail Gas Incinerator (TGI) D. 40 CFR 60, Subpart J (Unit(s) SRU1 and SRU2) Requirement: The permittee shall comply with the applicable requirements of 40 CFR 60, Subpart J.	Navajo complies with the requirements of Subpart J.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall install a continuous monitoring device to monitor compliance with the H₂S limit. (40 CFR 60.105(a)(3-4))	H-0473 SRU1 and SRU2 TGI has a CMS installed.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain the continuous emission records.	Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply	Navajo submitted NSPS Subpart J reports semiannually as follows:	☐ Continuous	☒ Yes	☐ Yes

with the reporting requirements of 40 CFR 60, Subpart J.	1/30/2019 7/30/2019	☒ Intermittent	☐ No	☒ No
A209 Fugitives A. NSPS Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after January 4, 1983, and on or before November 7, 2006 (Fugitives subject in Table 103.B)	As of May 1, 2016, Navajo has elected to comply with 60.592a(e) of NSPS Subpart GGGa for all process units affected by NSPS Subpart GGG regardless of whether or not those process units have triggered NSPS Subpart GGGa applicability. Fugitive components subject to this rule are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. These are monitored and reported in a NSPS Subpart GGGa semiannual report	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart GGG for all sources in Table 103.B (affected units and voluntarily units). This table also includes areas that are voluntarily following the NSPS Subpart GGG monitoring requirements. (See footnote 1 to Table 103.B)	As of May 1, 2016, Navajo has elected to comply with 60.592a(e) of NSPS Subpart GGGa for all process units affected by NSPS Subpart GGG regardless of whether or not those process units have triggered NSPS Subpart GGGa applicability. Fugitive components subject to this rule are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping. These are monitored and reported in a NSPS Subpart GGGa semiannual report	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 60, Subpart GGG.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart GGG.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart GGG.	Navajo submitted NSPS Subpart GGGa reports semiannually as follows: 2/28/2019 8/22/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives	Navajo continues to comply with the applicable requirements of NSPS Subpart GGGa as applicable, except for the deviations previously	☐ Continuous	☒ Yes	☐ Yes

B. NSPS Subpart GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (Fugitives subject in Table 103.B) Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart GGGa for all sources in Table 103.B (affected units and voluntarily units). This table also includes areas that are voluntarily following the NSPS Subpart GGGa monitoring requirements.	reported or identified at the end of this report. Fugitive components subject to either of these rules are included in the Leak Detection and Repair (LDAR) program. Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☒ Intermittent	☐ No	☒ No
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 60, Subpart GGGa.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart GGGa.	Navajo uses a third-party contractor for the LDAR monitoring and recordkeeping.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart GGGa.	Navajo submitted NSPS Subpart GGGa reports semiannually as follows: 2/28/2019 8/22/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives C. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Fugitives subject in Table 103.B) Requirement: The permittee shall	The Gasoline Loading Rack is equipped with a carbon adsorption system.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Tables 103.B. (63.640). For all activities in Table 103.B that are not subject to MACT CC, the permittee voluntarily performs a LDAR program for those units and that program meets the requirements of MACT CC.				
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	The Gasoline Loading Rack carbon absorption has a VOC CEMS installed in the exhaust air stream.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Records are kept by Holly Energy Partners (HEP) either at the Gasoline Loading Rack or at the HEP Artesia Office.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted NSPS Subpart GGGa reports semiannually as follows: 2/28/2019 8/22/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A209 Fugitives D. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (Fugitives subject in Table 103.B) Requirement The permittee shall comply with all applicable requirements of NSPS, 40 CFR Part 60.690, Subpart QQQ.	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations previously reported or identified at the end of this report. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations previously reported or identified at the end of this report. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No

	separator are inspected at least semi-annually.			
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.696.	Records are maintained by Navajo Environmental Department, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.697.	Navajo submitted NSPS Subpart QQQ reports semiannually as follows: 1/30/2019 7/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A209 Fugitives E. Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available Significant permit revision in accordance with 20.2.72 NMAC. The facility wide fugitive VOC emission limit shown above and in Table 106.A of this permit.	Navajo understands that minor changes to the facility piping and components that affect fugitive emissions will be added during the next permit modification.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A210 Loading Racks A. Truck and Rail Loading (Unit shown in Table 106.G) Requirement: Compliance with the allowable emission limits in Table 106.G shall be demonstrated by not exceeding the monthly rolling 12-month total throughput for each loading rack for each different product in gallons per year (barrels/year).	Navajo complies with these requirements.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall monitor the throughput volumes on a monthly basis.	The Truck & Rail Loading Racks volumes are maintained by Navajo's Accounting and Environmental Departments.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall record the monthly throughput volume for each loading rack for each different product. Each month during the first 12 months of monitoring the permittee shall record the cumulative condensate loadout volume and after the first 12 months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total loadout volume.	The Truck & Rail Loading Racks volumes are maintained by Navajo's Accounting and Environmental Departments.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Records shall also be maintained in accordance with Section B109.				
Reporting: The permittee shall report in accordance with Section B110.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2019 8/22/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A210 Loading Racks B. Fuel Truck Loading Rack (Units subject in Table 103.D) (40 CFR 63, Subpart CC) Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries. Specially, the truck loading rack shall be equipped with a carbon adsorption system for compliance with the MACT requirements.	The Truck Loading Rack has a carbon absorption system installed.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. Specifically 63.427(a)(2), where a carbon adsorption system is used, a continuous emission monitoring system (CEMS) capable of measuring organic compound concentration shall be installed in the exhaust air stream.	The Truck Loading Rack has a CEMS installed.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart CC.	Records are kept by Holly Energy Partners (HEP) either at the Gasoline Loading Rack or at the HEP Artesia Office.	☒ Continuous ☐ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart CC.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2019 8/22/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A211 Fluid Catalytic Cracking Unit (FCC) A. Continuous Monitor System(CMS) (Unit FCC REGEN) Requirement: <u>(1) Consent Decree Limits on PM and SO₂ emissions from the FCC:</u> By no later than December 31, 2003, the Wet Gas Scrubber (WGS) on the FCC Regenerator shall comply with the following limits: (CD ¶12.B & ¶13.B) (d) SO₂ concentration not to exceed 25 ppmvd on a daily rolling 365-day average basis and 50 ppmvd on a daily rolling 7-day average basis, each corrected to 0% oxygen. Compliance with this emissions limit shall be demonstrated on an ongoing basis through the use of CMS; and (e) a particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis (CD ¶13.B). To demonstrate compliance with this requirement, the Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9, Opacity Test in accordance with their approved Alternative Monitoring Plan (AMP).	1d) The FCC catalyst regenerator exhaust is continuously monitored for SO₂. 1e) The catalytic cracking regenerator is tested annually for PM and was tested on the following date: 02/13/2019 1f) Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9. 2) The FCC exhaust is continuously monitored for NO_x and CO. Deviations were reported to the Department as excess emission events and on the NSPS Subpart J report.	☒ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
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(f) As the FCC Regenerator is subject to the provisions of 40 CFR 60.102 (NSPS Subpart J), it shall not discharge to the atmosphere gases exhibiting greater than 30 percent opacity, except for one six-minute average opacity reading in any one-hour period. (2) <u>Consent Decree Limits on NO_x and CO emissions from the FCC:</u> The FCC shall comply with NO_x and CO emission limits as follows: (a) The concentration-based (ppmvd) NO_x emission limit based on daily rolling 7-day and daily rolling 365-day averages, corrected to 0% oxygen as established pursuant to the Consent Decree, unless EPA rejects the proposed limit and establishes a different NO_x emission limit, in which case the FCC shall comply with EPA's established limit. Under no circumstances shall this emission limit be greater than a concentration-based limit that would be equivalent to 34.9 lbs/hr. The 7-day FCC NO_x emission limits, shall not apply during periods of Hydrotreater Outage provided that the FCC (including associated air pollution control equipment) is maintained and operated in a				
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manner that minimizes emissions in accordance with an EPA-approved good air pollution control practices plan. Navajo shall comply with the plan at all times, including periods of startup, shutdown, and malfunction of the hydrotreater. The daily rolling 365-day average NOx emissions limit shall apply during periods of hydrotreater outages. The NOx limits are: (1) 87.3 ppmvd NOx, corrected to 0% O₂ on a daily rolling 7-day average, and (2) 58.1 ppmvd NOx, corrected to 0% O₂ on a daily rolling 365-day average (b) The NSPS Subpart J emission limit of 500 ppmvd CO corrected to 0% O₂ on a 1-hour average basis and 100 ppmvd CO corrected to 0% O₂ on a daily rolling 365-day average basis, by no later than December 31, 2003.				
Monitoring: (1) A continuous monitor system (CMS) for CO, O₂, SO₂ and NOx shall be installed, calibrated, maintained, and operated on the FCC Catalyst Regenerator vent stack(s) downstream of the scrubber in accordance with 40 CFR Part 60, §60.13, Appendix A, and the	1) The FCCU Catalyst Regenerator Scrubber exhaust is continuously monitored for CO, O₂, SO₂, and NOx. PM is monitored annually. 2) The FCC regenerator CMS were recertified on the following dates: CO 02/13/2019 SO₂ 02/13/2019 NOx 02/13/2019	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

applicable performance specifications of Appendices B (Specifications 2 and 3) and F. The CMS shall be used to demonstrate compliance with CO, SO₂ and NO_x emissions limits and to report compliance with the terms and conditions of the Consent Decree. The CMS and process data shall be made available, by permittee, to applicable Federal and State Agencies (NMED) upon demand as soon as practicable. (CD ¶11.F, 12 D, and 14.C) (2) The FCC Regenerator Scrubber NO_x, SO₂, CO and O₂ CMS shall be recertified annually. (3) The CMS data shall be monitored to ensure the CO, SO₂ and NO_x emission limits for the FCC are met. (4) The Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9 Opacity test to demonstrate compliance with the particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis and opacity limit of 30%. Permittee shall meet testing requirements of B111.	O2 02/13/2019 3) CMS data is used to ensure emissions limits are met. 4) The catalytic cracking regenerator is tested annually for PM and was tested on the following date: 02/13/2019 Navajo has submitted an alternative monitoring plan (AMP) to comply with the FCC opacity monitoring requirement because the FCCU has a wet scrubber which prevents continuous opacity monitoring. Under the AMP, opacity is monitored weekly using 40 CFR 60 Appendix A Method 9.			
Recordkeeping: The permittee shall maintain the records of: (1) The certification and re-certification of the CMS.	1), 2), 3), 4), and 5) Records are maintained by Navajo Environmental Department and on Pi.	☒ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

(2) Modifications to the FCC's good air pollution control practice plan to minimize NOx emissions shall be summarized on an annual basis if any changes were made. (CD ¶11.G) (3) The permittee shall keep records of CMS data monitoring NO₂, SO₂, PM₁₀ and CO emissions from the FCC. (CD ¶11.F, CD ¶12.D & CD ¶14.C) (4) Records of NOx, CO, SO₂ ppmvd, lb/hr, tpy; PM lb/hr, tpy and opacity. TPY shall be based on a monthly rolling 12-month total. (5) The permittee shall keep records of annual PM stack tests and weekly Method 9 observations conducted on the FCC. For any opacity observations conducted in accordance with the requirements of EPA Method 9, record the information on the form referenced in EPA Method 9, Sections 2.2 and 2.4.				
Reporting: The permittee shall report in accordance with Section B110 and testing requirements of B111.	Navajo submitted NSPS Subparts J and Ja reports semiannually as follows: 1/30/2019 7/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A211 Fluid Catalytic Cracking Unit (FCC) B. Performance Testing (Unit FCC REGEN) Requirements: (1) The permittee shall demonstrate compliance with the NSPS Subpart J particulate matter emission limit at Table 106.A by conducting an initial performance test in accordance with NSPS Subpart A, §60.8 and NSPS Subpart J, §60.106(b). The particulate matter stack test shall be repeated on an annual basis. (2) The permittee shall comply with all applicable performance testing requirements in accordance with MACT Subparts A and UUU.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: Testing shall be conducted in accordance with NSPS Subparts A and J, and in accordance with MACT Subparts A and UUU.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall maintain performance test records in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance with Section B109.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report performance test results in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance with Section B110.	Navajo complies with the requirements of NSPS Subpart J, Ja, MACT Subpart A, and UUU.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A212 Cooling Towers A. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Cooling Towers subject in Table 103.F) Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart CC for heat exchange systems for all affected sources shown in Table 103.F attached. (63.654(a), 63.640(h)(6))	Navajo complies with the applicable requirements for heat exchange systems, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. (63.654(c), (d), (e), (f))	Navajo complies with the applicable requirements for heat exchange systems, except for deviations previously reported or identified at the end of this report.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart CC. (63.654(g), 63.655(i)(4), (i)(5))	Records are maintained by the onsite LDAR contractor and by the Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart CC. (63.655(f), (f)(1)(vi), (g)(9), (h)(1), (7))	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2019 8/22/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A212 Cooling Towers B. Cooling Tower Operations (Cooling Towers subject in Table 103.F) Requirement: Compliance with the allowable emission limits in Table 106.H shall be demonstrated by meeting the following requirements: 1) operate a maximum of six (6) recirculating pumps at any one	1) Navajo operates with less than six (6) recirculating pumps per heat exchange system. 2) The pump capacity is less than 65,500 gpm 3) The Total Dissolved Solids (TDS) is sampled by the Navajo Lab and results maintained in the VortalBLISS system and maintained by the Navajo Environmental Department. 4) Drift eliminators installed are rated by the manufacturer for 0.001% or 0.003 drift.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

time; 2) ensure that each pump capacity shown in Table 104.A are not exceeded gallons per minute for each cooling tower (65,500 gpm total maximum rate for 6 pumps); 3) limit the Total Dissolved Solids (TDS) content for the cooling tower recirculating water system to 3500 ppmw, based on a monthly rolling 12-month annual average; 4) ensure that the drift eliminator are rated by the manufacturer at 0.001% or 0.003 drift or less as shown in Table 104.A; and 5) ensure that the drift eliminator is present and in good working order. The permittee shall measure the Total Dissolved Solids (TDS) content of the recirculating water through direct laboratory analysis, or may use a conductivity meter on the recirculating water system for the cooling tower. The correlation between conductivity of the water and the TDS content shall be taken as $0.9 * \text{conductivity } (\mu\text{mhos/cm}) = \text{TDS (ppmw)}$ unless a new correlation is determined through laboratory analysis and submitted to the Permit Program Manager for approval.	5) Drift eliminators are inspected on an annual basis.			
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Monitoring: The permittee shall: 1) Monitor the recirculating water TDS content by direct laboratory analysis of the TDS or through use of conductivity meter values and correlated TDS on a monthly basis; and a. Any correlation other than the 0.9 value described above shall be developed by the permittee by independent laboratory measurement of at least 10 water samples with approximately evenly spaced measured TDS values that bracket the minimum and maximum values expected. The highest laboratory TDS sample used for the correlation shall be greater than the maximum allowable TDS of 3500 ppmw. 2) Perform an annual inspection of the drift eliminator and perform any maintenance necessary to ensure the device operates according to the manufacturer's specifications. 3) The permittee shall monitor the cooling water inlet and outlet	1) The Total Dissolved Solids (TDS) is sampled by the Navajo Lab and results maintained in the VortalBLISS system and maintained by the Navajo Environmental Department. 2) Drift eliminators are inspected on an annual basis. 3) The Cooling Towers are monitored for VOC breakthrough via the El Paso Method described in Appendix P.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
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streams for hydrocarbons on an annual basis using either EPA Method 8015 with a large enough sample to achieve accurate quantification of hydrocarbon content, EPA Method 8260, EPA Method 8270 or a similar method as approved by the Department prior to testing.				
Recordkeeping: The permittee shall maintain the following records: 1) Manufacturer's specifications demonstrating maximum capacities of the recirculating water pumps and the manufacturer's specification for the drift eliminator specified drift rate; 2) Monthly TDS and monthly rolling 12-month average; 3) If a conductivity meter is installed, a record of the correlation between conductivity and TDS, any laboratory analyses used to determine the correlation, and all related calculations; 4) Annual drift eliminator inspection and any records of maintenance performed. The permittee shall maintain records in accordance with Section B109.	1) Records maintained by the Navajo Inspections Department. 2) Records maintained by the Navajo Environmental Department. 3) Records maintained by the Navajo Lab. 4) Records maintained by the Navajo Inspections Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in	Navajo submitted MACT Subpart CC reports semiannually as follows:	☐ Continuous	☒ Yes	☐ Yes

accordance with Section B110.	2/28/2019 8/22/2019	☒ Intermittent	☐ No	☒ No
A213 Wastewater Systems A. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (Unit MAIN API) Requirement: Beginning December 31, 2003, all remaining and newly installed individual drain systems, oil-water separators, and aggregate facilities not previously specified shall be affected facilities, as the term is used in the NSPS, 40 CFR Part 60, Subpart QQQ, and shall be subject to and comply with the applicable requirements of 40 CFR Part 60, Subpart QQQ. (CD ¶29) The permittee shall comply with all applicable requirements of NSPS Subpart QQQ for the affected sources in Tables 103.B, C, G. (60.690)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations previously reported or identified at the end of this report. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695 and 60.696)	Navajo continues to comply with the applicable requirements of NSPS Subparts QQQ throughout the refinery, except for deviations previously reported or identified at the end of this report. Oily water sewer drain hubs are inspected at least monthly. Junction boxes, and the oil-water separator are inspected at least semi-annually.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.697.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.698.	Navajo submitted NSPS Subpart QQQ reports semiannually as follows: 1/30/2019 7/30/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

A213 Wastewater Systems B. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Tables 103.B, C, G attached. (63.640).	Navajo complies with the requirements of MACT CC, except for deviations noted in semiannual reports.	☐ Continuous ☒ Intermittent	☐ Yes ☒ No	☒ Yes ☐ No
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.	Navajo complies with the requirements of MACT CC.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.	Records are maintained by Navajo Environmental Department.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.	Navajo submitted MACT Subpart CC reports semiannually as follows: 2/28/2019 8/22/2019	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
A213 Wastewater Systems C. Wastewater Treatment System (Units shown in Table 106.I) Requirement: Compliance with the emission limits in Table 106.I shall be demonstrated by properly maintaining and repairing the units, and running the Wastewater Model annually to calculate the maximum VOC emissions generated.	Navajo complies with this requirement, except for deviations noted in semiannual reports.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No

Monitoring: (1) Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events: (a) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period. (b) Unscheduled repairs that require a unit to be taken out of service for more than two hours in any twenty-four hour period. (2) The permittee shall annually run the Waste-Water Model to determine the hourly and annual emission rates, based on Toxchem V4 Input Parameters.	1) Navajo complies with this requirement, except for deviations noted in semiannual reports. 2) Navajo uses EPA's Water 9 waste-water model.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Recordkeeping: (1) The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule. (2) The permittee shall maintain records of the Toxchem V4 Input Parameters and the emission calculation results compared to permit limits.	1) Navajo complies with this requirement, except for deviations noted in semiannual reports. 2) Navajo uses EPA's Water 9 waste-water model.	☐ Continuous ☒ Intermittent	☒ Yes ☐ No	☐ Yes ☒ No
Reporting: The permittee shall report in accordance with Section B110.	Navajo complies with the requirement of section B110.	☐ Continuous	☒ Yes	☐ Yes

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		☒ Intermittent	☐ No	☒ No
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PART 1 B General Conditions

1. Have these General Conditions been met during this reporting period? <u>If the section Heading is marked as N/A no remarks are required.</u> <u>Check only one box per subject heading.</u> <u>Explain answers in remarks row under subject heading.</u>	2. Was this facility in compliance with this requirement during the reporting period?	3. Does not apply
B100 <u>Introduction</u> A. N/A	☒ Yes Explain Below	☐ No Explain Below
REMARKS:		
B101 <u>Legal</u> A. Permit Terms and Conditions (20.2.70 sections 7, 201.B, 300, 301.B, 302, 405 NMAC) (1) The permittee shall abide by all terms and conditions of this permit, except as allowed under Section 502(b)(10) of the Federal Act, and 20.2.70.302.H.1 NMAC. Any permit noncompliance is grounds for enforcement action, and significant or repetitious noncompliance may result in termination of this permit. Additionally, noncompliance with federally enforceable conditions of this permit constitutes a violation of the Federal Act. (20.2.70.302.A.2.a NMAC) (2) Emissions trading within a facility (20.2.70.302.H.2 NMAC) (a) The Department shall, if an applicant requests it, issue permits that contain terms and conditions allowing for the trading of emissions increases and decreases in the permitted facility solely for the purpose of complying with a federally enforceable emissions cap that is established in the permit in addition to any applicable requirements. Such terms and conditions shall include all terms and conditions required under 20.2.70.302 NMAC to determine compliance. If applicable requirements apply to the requested emissions trading, permit conditions shall be issued only to the extent that the applicable requirements provide for trading such increases and decreases without a case-by-case approval. (b) The applicant shall include in the application proposed replicable procedures and permit terms that ensure the emissions trades are quantifiable and enforceable. The Department shall not include in the emissions trading provisions any emissions units for which emissions are not quantifiable or for which there are no replicable procedures to enforce the emissions trades. The permit shall require compliance with all applicable requirements. (3) It shall not be a defense for the permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (20.2.70.302.A.2.b NMAC)	☒ Yes Explain Below	☐ No Explain Below

PART 1 B General Conditions

- (4) If the Department determines that cause exists to modify, reopen and revise, revoke and reissue, or terminate this permit, this shall be done in accordance with 20.2.70.405 NMAC. (20.2.70.302.A.2.c NMAC)
- (5) The permittee shall furnish any information the Department requests in writing to determine if cause exists for reopening and revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. This information shall be furnished within the time period specified by the Department. Additionally, the permittee shall furnish, upon request by the Department, copies of records required by the permit to be maintained by the permittee. (20.2.70.302.A.2.f NMAC)
- (6) A request by the permittee that this permit be modified, revoked and reissued, or terminated, or a notification by the permittee of planned changes or anticipated noncompliance, shall not stay any conditions of this permit. (20.2.70.302.A.2.d NMAC)
- (7) This permit does not convey property rights of any sort, or any exclusive privilege. (20.2.70.302.A.2.e NMAC)
- (8) In the case where an applicant or permittee has submitted information to the Department under a claim of confidentiality, the Department may also require the applicant or permittee to submit a copy of such information directly to the Administrator of the EPA. (20.2.70.301.B NMAC)
- (9) The issuance of this permit, or the filing or approval of a compliance plan, does not relieve the permittee from civil or criminal liability for failure to comply with the state or Federal Acts, or any applicable state or federal regulation or law. (20.2.70.302.A.6 NMAC and the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2)
- (10) If any part of this permit is challenged or held invalid, the remainder of the permit terms and conditions are not affected and the permittee shall continue to abide by them. (20.2.70.302.A.1.d NMAC)
- (11) A responsible official (as defined in 20.2.70.7.AE NMAC) shall certify the accuracy, truth and completeness of every report and compliance certification submitted to the Department as required by this permit. These certifications shall be part of each document. (20.2.70.300.E NMAC)
- (12) Revocation or termination of this permit by the Department terminates the permittee's right to operate this facility. (20.2.70.201.B NMAC)
- (13) The permittee shall continue to comply with all applicable requirements. For applicable requirements that will become effective during the term of the permit, the permittee shall meet such requirements on a timely basis. (Sections 300.D.10.c and 302.G.3 of 20.2.70 NMAC)

B. Permit Shield (20.2.70.302.J NMAC)

PART 1 B General Conditions

(1) Compliance with the conditions of this permit shall be deemed to be compliance with any applicable requirements existing as of the date of permit issuance and identified in Table 103.A. The requirements in Table 103.A are applicable to this facility with specific requirements identified for individual emission units. (2) The Department has determined that the requirements in Table 103.B as identified in the permit application are not applicable to this source, or they do not impose any conditions in this permit. (3) This permit shield does not extend to administrative amendments (Subsection A of 20.2.70.404 NMAC), to minor permit modifications (Subsection B of 20.2.70.404 NMAC), to changes made under Section 502(b)(10), changes under Paragraph 1 of subsection H of 20.2.70.302 of the Federal Act, or to permit terms for which notice has been given to reopen or revoke all or part under 20.2.70.405 and 20.2.70.302J(6). (4) This permit shall, for purposes of the permit shield, identify any requirement specifically identified in the permit application or significant permit modification that the department has determined is not applicable to the source, and state the basis for any such determination. (20.2.70.302.A.1.f NMAC) C. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollutant control practices for minimizing emissions. (20.2.7.109 NMAC). The establishment of allowable malfunction emission limits does not supersede this requirement.			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B102 Authority A. This permit is issued pursuant to the federal Clean Air Act ("Federal Act"), the New Mexico Air Quality Control Act ("State Act") and regulations adopted pursuant to the State and Federal Acts, including Title 20, New Mexico Administrative Code, Chapter 2, Part 70 (20.2.70 NMAC) - Operating Permits. B. This permit authorizes the operation of this facility. This permit is valid only for the named permittee, owner, and operator. A permit modification is required to change any of those entities. C. The Department specifies with this permit, terms and conditions upon the operation of this facility to assure compliance with all applicable requirements, as defined in 20.2.70 NMAC at the time this permit is issued. (20.2.70.302.A.1 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below

PART 1 B General Conditions

D. Pursuant to the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2, all terms and conditions in this permit, including any provisions designed to limit this facility's potential to emit, are enforceable by the Department. All terms and conditions are enforceable by the Administrator of the United States Environmental Protection Agency ("EPA") and citizens under the Federal Act, unless the term or condition is specifically designated in this permit as not being enforceable under the Federal Act. (20.2.70.302.A.5 NMAC) E. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the Modification and Exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).			
REMARKS:			
B103 <u>Annual Fee</u> The permittee shall pay Title V fees to the Department consistent with the fee schedule in 20.2.71 NMAC - Operating Permit Emission Fees. The fees will be assessed and invoiced separately from this permit. (20.2.70.302.A.1.e NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
REMARKS:			
B104 <u>Appeal Procedures</u> (20.2.70.403.A NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. Any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for a hearing before the Environmental Improvement Board ("board"). The petition shall be made in writing to the board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered, and attach a copy of the permitting action for which review is sought. Unless a timely request for a hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to: Secretary, New Mexico Environmental Improvement Board 1190 St. Francis Drive, Runnels Bldg. Rm N2153			

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Santa Fe, New Mexico 87502

REMARKS:**B105 Submittal of Reports and Certifications**☒ **Yes**
Explain
Below☐ **No**
Explain
Below☐ **N/A**
Explain
Below

- A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to Stacktest.AQB@state.nm.us or as directed by the Department.
- B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC)
- C. Compliance Certification Reports, Semi-Annual monitoring reports, compliance schedule progress reports, and any other compliance status information required by this permit shall be certified by the responsible official and submitted to the mailing address below, or as directed by the Department:

Manager, Compliance and Enforcement Section
 New Mexico Environment Department
 Air Quality Bureau
 525 Camino de los Marquez, Suite 1
 Santa Fe, NM 87505-1816

- D. Compliance Certification Reports shall also be submitted to the Administrator at the address below (20.2.70.302.E.3 NMAC):

Chief, Air Enforcement Section
 US EPA Region-6, 6EN-AA
 1445 Ross Avenue, Suite 1200
 Dallas, TX 75202-2733

REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

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B106 <u>NSPS and/or MACT Startup, Shutdown, and Malfunction Operations</u>	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c). B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart. (20.2.70.302.A.1 and A.4 NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B107 <u>Startup, Shutdown, and Maintenance Operations</u>	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (20.2.7.14.A NMAC)			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			

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B108 General Monitoring Requirements (20.2.70. 302.A and C NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. These requirements do not supersede or relax requirements of federal regulations.			
B. The following monitoring and/or testing requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer.			
C. If the emission unit is shutdown at the time when periodic monitoring is due to be accomplished, the permittee is not required to restart the unit for the sole purpose of performing the monitoring. Using electronic or written mail, the permittee shall notify the Department's Enforcement Section of a delay in emission tests prior to the deadline for accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish the monitoring.			
D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke monitoring period exemptions at B108.D(2), hours of operation shall be monitored and recorded.			
(1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period.			
(2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods.			
(3) If invoking the monitoring period exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring			

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is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during the five year term of this permit.

- E. The permittee is not required to report a deviation for any monitoring or testing in a Specific Condition if the deviation was authorized in this General Condition B108.

- F. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.

- G. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.

- H. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance. All monitoring periods, unless stated otherwise in the specific permit condition or federal requirement, shall commence at the beginning of the 12 month reporting period as defined at condition A109.B.

REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

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B109 <u>General Recordkeeping Requirements</u> (20.2.70.302.D.1 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any applicable requirements that become effective during the term of this permit. The minimum information to be included in these records is (20.2.70.302.D.1 NMAC): (1) Records required for testing and sampling: (a) equipment identification (include make, model and serial number for all tested equipment and emission controls); (b) date(s) and time(s) of sampling or measurements; (c) date(s) analyses were performed; (d) the company or entity that performed the analyses; (e) analytical or test methods used; (f) results of analyses or tests; and (g) operating conditions existing at the time of sampling or measurement. (2) Records required for equipment inspections and/or maintenance required by this permit: (a) equipment identification number (including make, model and serial number) (b) date(s) and time(s) of inspection, maintenance, and/or repair (c) date(s) any subsequent analyses were performed (if applicable) (d) name of the person or qualified entity conducting the inspection, maintenance, and/or repair (e) copy of the equipment manufacturer's or the owner or operator's maintenance or repair recommendations (if required to demonstrate compliance with a permit condition) (f) description of maintenance or repair activities conducted (g) all results of any required parameter readings (h) a description of the physical condition of the equipment as found during any required inspection (i) results of required equipment inspections including a description of any condition which required adjustment to bring the equipment back into compliance and a description of the required adjustments			

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| <p>B. The permittee shall keep records of all monitoring data, equipment calibration, maintenance, and inspections, Data Acquisition and Handling System (DAHS) if used, reports, and other supporting information required by this permit for at least five (5) years from the time the data was gathered or the reports written. Each record shall clearly identify the emissions unit and/or monitoring equipment, and the date the data was gathered. (20.2.70.302.D.2 NMAC)</p> <p>C. If the permittee has applied and received approval for an alternative operating scenario, then the permittee shall maintain a log at the facility, which documents, contemporaneously with any change from one operating scenario to another, the scenario under which the facility is operating. (20.2.70.302.A.3 NMAC)</p> <p>D. The permittee shall keep a record describing off permit changes made at this source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes. (20.2.70.302.I.2 NMAC)</p> <p>E. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine and predictable emissions during startup, shutdown, and scheduled maintenance (SSM):</p> <ol style="list-style-type: none"> (1) The owner or operator of a source subject to a permit, shall establish and implement a plan to minimize emissions during routine or predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC - Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. (20.2.7.14.A NMAC) The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC. (2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. | |
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- (3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.
- (4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

B110 General Reporting Requirements
 (20.2.70.302.E NMAC)

☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
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- A. Reports of required monitoring activities for this facility shall be submitted to the Department on the schedule in section A109. Monitoring and recordkeeping requirements that are not required by a NSPS or MACT shall be maintained on-site or (for unmanned sites) at the nearest company office, and summarized in the semi-annual reports, unless alternative reporting requirements are specified in the equipment specific requirements section of this permit.
- B. Reports shall clearly identify the subject equipment showing the emission unit ID number according to this operating permit. In addition, all instances of deviations from permit requirements, including those that occur during emergencies, shall be clearly identified in the reports required by section A109. (20.2.70.302.E.1 NMAC)
- C. The permittee shall submit reports of all deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. These reports shall be submitted as follows:
- (1) Deviations resulting in excess emissions as defined in 20.2.7.7 NMAC (including those classified as emergencies as defined in section B114.A) shall be reported in accordance with the timelines specified by 20.2.7.110 NMAC and in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC)

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(2) All other deviations shall be reported in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC). D. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC. E. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format. F. At such time as new units are installed as authorized by the applicable NSR Permit, the permittee shall fulfill the notification requirements in the NSR permit. G. Periodic Emissions Test Reporting: The permittee shall report semi-annually a summary of the test results. H. The permittee shall submit an emissions inventory for this facility annually. The emissions inventory shall be submitted by the later of April 1 or within 90 days after the Department makes such request. (20.2.73 NMAC and 20.2.70.302.A.1 NMAC) (1) The facility emits, or has the potential to emit, 5 tons per year or more of lead or lead compounds, or 100 tons per year or more of PM₁₀, PM_{2.5}, sulfur oxides, nitrogen oxides, carbon monoxide, or volatile organic compounds. (2) The facility is defined as a major source of hazardous air pollutants under 20.2.70 NMAC (Operating Permits). (3) The facility is located in an ozone nonattainment area and which emits, or has the potential to emit, 25 tons per year or more of nitrogen oxides or volatile organic compounds. (4) Upon request by the department. (5) The permittee shall submit the emissions inventory report by April 1 of each year, unless a different deadline is specified by the current operating permit. I. Emissions trading within a facility (20.2.70.302.H.2 NMAC) (1) For each such change, the permittee shall provide written notification to the department and the administrator at least seven (7) days in advance of the proposed changes. Such notification shall state when the change will occur and shall describe the changes in emissions that will result and how these increases and decreases in emissions will comply with the terms and conditions of the permit.			
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(2) The permittee and department shall attach each such notice to their copy of the relevant permit.			
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REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

B111 General Testing Requirements

☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
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A. Compliance Tests

- (1) Compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. (20.2.72 NMAC Sections 210.C and 213)
- (2) Compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.
- (3) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Department approval, be determined using the arithmetic mean of the results of the two other runs.
- (4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate, subject to the approval of the Department.
- (5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.
- (6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

B. EPA Reference Method Tests

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| <p>(1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of this permit, shall be conducted in accordance with the requirements of 40 CFR 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by 40 CFR 60, Appendix A:</p> <ul style="list-style-type: none"> (a) Methods 1 through 4 for stack gas flowrate (b) Method 5 for TSP (c) Method 6C and 19 for SO₂ (d) Method 7E for NO_x (test results shall be expressed as nitrogen dioxide (NO₂) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO₂ is equivalent to 1.194 x 10⁻⁷ lb/SCF) (e) Method 9 for opacity (f) Method 10 for CO (g) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter). (h) Method 7E or 20 for Turbines per 60.335 or 60.4400 (i) Method 29 for Metals (j) Method 201A for filterable PM₁₀ and PM_{2.5} (k) Method 202 for condensable PM (l) Method 320 for organic Hazardous Air Pollutants (HAPs) (m) Method 25A for VOC reduction efficiency (n) Method 30B for Mercury <p>(2) Alternative test method(s) may be used if the Department approves the change.</p> | |
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C. Periodic Monitoring and Portable Analyzer Requirements

- (1) Periodic emissions tests (periodic monitoring) may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of ASTM D 6522-00. However, if a facility has met a previously approved Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced.

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| <p>(2) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be at least 20 minutes.</p> <p>Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit.</p> <p>(3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.F.</p> <p>(4) During emissions tests, pollutant and diluent concentration shall be monitored and recorded. Fuel flow rate shall be monitored and recorded if stack gas flow rate is determined utilizing Method 19. This information shall be included with the test report furnished to the Department.</p> <p>(5) Stack gas flow rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) determined by a dedicated fuel flow meter and fuel heating value (Btu/scf) determined from a fuel sample obtained preferably during the day of the test, but no earlier than three months prior to the test date. Alternatively, stack gas flow rate may be determined by using EPA Methods 1-4.</p> | |
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D. Test Procedures:

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| <p>(1) The permittee shall notify the Department's Program Manager, Compliance and Enforcement Section at least thirty (30) days before the test to afford a representative of the Department an opportunity to be present at the test. (40CFR 60.8(d))</p> <p>(2) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.</p> <p>(3) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing.</p> <p>(4) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment.</p> <p>(5) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Method 1 or ASTM D 6522-00 as applicable.</p> <p>(6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed</p> <p>(7) Unless otherwise indicated by Specific Conditions or regulatory requirements, test reports shall be submitted to the Department no later than 30 days after completion of the test.</p> | |
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REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

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B112 Compliance	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)			
B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.70.302.G.3 NMAC)			
C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit. (20.2.70.302.A.1 and G.3 NMAC)			
D. The permittee shall submit compliance certification reports certifying the compliance status of this facility with respect to all permit terms and conditions, including applicable requirements. These reports shall be made on the pre-populated Compliance Certification Report Form that is provided to the permittee by the Department, and shall be submitted to the Department and to EPA at least every 12 months. For the most current form, please contact the Compliance Reports Group at email:reportsgroup.aqb@state.nm.us. For additional reporting guidance see https://www.env.nm.gov/aqb/enforce_compliance/SubmittalForms.htm. (20.2.70.302.E.3 NMAC)			
E. The permittee shall allow representatives of the Department, upon presentation of credentials and other documents as may be required by law, to do the following (20.2.70.302.G.1 NMAC):			

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(1) enter the permittee's premises where a source or emission unit is located, or where records that are required by this permit to be maintained are kept; (2) have access to and copy, at reasonable times, any records that are required by this permit to be maintained; (3) inspect any facilities, equipment (including monitoring and air pollution control equipment), work practices or operations regulated or required under this permit; and (4) sample or monitor any substances or parameters for the purpose of assuring compliance with this permit or applicable requirements or as otherwise authorized by the Federal Act.			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B113 <u>Permit Reopening and Revocation</u> A. This permit will be reopened and revised when any one of the following conditions occurs, and may be revoked and reissued when A(3) or A(4) occurs. (20.2.70.405.A.1 NMAC) (1) Additional applicable requirements under the Federal Act become applicable to a major source three (3) or more years before the expiration date of this permit. If the effective date of the requirement is later than the expiration date of this permit, then the permit is not required to be reopened unless the original permit or any of its terms and conditions has been extended due to the Department's failure to take timely action on a request by the permittee to renew this permit. (2) Additional requirements, including excess emissions requirements, become applicable to this source under Title IV of the Federal Act (the acid rain program). Upon approval by the Administrator, excess emissions offset plans will be incorporated into this permit. (3) The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the terms and conditions of the permit. (4) The Department or the Administrator determines that the permit must be revised or revoked and reissued to assure compliance with an applicable requirement. B. Proceedings to reopen or revoke this permit shall affect only those parts of this permit for which cause to reopen or revoke exists. Emissions units for which permit conditions have been revoked shall not be operated until new permit conditions have been issued for them. (20.2.70.405.A.2 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below

PART 1 B General Conditions

REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

B114 Emergencies

(20.2.70.304 NMAC)

☒ **Yes**
Explain
Below

☐ **No**
Explain
Below

☐
N/A
Explain
Below

- A. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the permittee, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, or careless or improper operation.
- B. An emergency constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations contained in this permit if the permittee has demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
- (1) An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - (2) This facility was at the time being properly operated;
 - (3) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; and
 - (4) The permittee submitted notice of the emergency to the Department within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirement of 20.2.70.302.E.2 NMAC. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- C. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- D. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

REMARKS:

Except for deviations reported on the semi-annual reports and/or referenced in this report.

PART 1 B General Conditions

B115 <u>Stratospheric Ozone</u> (20.2.70.302.A.1 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. If this facility is subject to 40 CFR 82, Subpart F, the permittee shall comply with the following standards for recycling and emissions reductions: (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices, except for motor vehicle air conditioners (MVAC) and MVAC-like appliances. (40 CFR 82.156) (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment. (40 CFR 82.158) (3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program. (40 CFR 82.161)			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			
B116 <u>Acid Rain Sources</u> (20.2.70.302.A.9 NMAC)	☐ Yes Explain Below	☐ No Explain Below	☒ N/A Explain Below
A. If this facility is subject to the federal acid rain program under 40 CFR 72, this section applies. B. Where an applicable requirement of the Federal Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Federal Act, both provisions are incorporated into this permit and are federally enforceable. C. Emissions exceeding any allowances held by the permittee under Title IV of the Federal Act or the regulations promulgated thereunder are prohibited. D. No modification of this permit is required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit modification under any other applicable requirement. E. The permittee may not use allowances as a defense to noncompliance with any other applicable requirement.			

PART 1 B General Conditions

F. No limit is placed on the number of allowances held by the acid rain source. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Federal Act. G. The acid rain permit is an enclosure of this operating permit.			
REMARKS:			
B117 <u>Risk Management Plan</u> (20.2.70.302.A.1 NMAC)	☒ Yes Explain Below	☐ No Explain Below	☐ N/A Explain Below
A. If this facility is subject to the federal risk management program under 40 CFR 68, this section applies. B. The owner or operator shall certify annually that they have developed and implemented a RMP and are in compliance with 40 CFR 68. C. If the owner or operator of the facility has not developed and submitted a risk management plan according to 40 CFR 68.150, the owner or operator shall provide a compliance schedule for the development and implementation of the plan. The plan shall describe, in detail, procedures for assessing the accidental release hazard, preventing accidental releases, and developing an emergency response plan to an accidental release. The plan shall be submitted in a method and format to a central point as specified by EPA prior to the date specified in 40 CFR 68.150.b.			
REMARKS: Except for deviations reported on the semi-annual reports and/or referenced in this report.			

Part 2

ACC Deviation Summary Report for Permit P051-R2 & R2M1

1. Are there any deviations identified in Part 1, Column 5. If NO, no further information is required on Part 2 of this form. If YES, answer question 2 below.	☒ Yes ☐ No
2. Have all deviations identified in Part 1, Column 5 been reported to the NMED as required by 20.2.7 NMAC or in a Semi-Annual Monitoring Report (20.2.70.302.E.1)? If YES, no further information is required on Part 2 of this form. If No, answer question 3 below and enter the required information in the Deviation Summary Table for each deviation not yet reported to the NMED.	☐ Yes ☒ No
3. Did any of the deviations result in excess emissions? For excess emissions deviations that have not previously been reported per requirements of 20.2.7 NMAC, a completed Excess Emission Form for each deviation must be attached to this report.	☒ Yes ☐ No

Deviation Summary Table for deviations not yet reported.

No.	Applicable Requirement (Include Rule Citation)	Emission Unit ID(s)	Cause of Deviation	Corrective Action Taken
1	A106.C, A107.C, A107.F Allowable SSM and Malfunction Emissions	All Flares	Flare monitoring implemented to meet NSPS Ja requirements has resulted in data that has been under evaluation for potential exceedences of permit limits. Thus, any excess emissions have not been reported to date.	Navajo has been working to quantify emissions from its flares, and draft permit applications to reflect new permit limits were provided to and discussed with the NMED. It is anticipated that a final application will be submitted by end of 4th quarter 2019. Navajo will subsequently address any reporting of excess emissions that may be necessary with the NMED.
2	A206.B 40 CFR 63.11(b)	FL-0400 FL-0401 FL-0404	Flare gas below 300 btu/scf NHV due to hydrogen venting as a result of process upset and hydrogen imbalance.	Increased H2 consumption and reduced H2 sent to the flare.
3	A106 and A107	All Sources	Several excess emission reports required under condition A106 and A107 were not reported within the time required under 20.2.7 NMAC.	Navajo currently tracks emission events on a daily basis and is in the process of installing a Data Acquisition System (DAS) to capture events instantaneously.
4	A103.A, 20.2.74 NMAC	GOHT, including FL-0404 and H-0601	The draft results of a voluntary, third-party, focused environmental compliance audit received on April 9, 2018, as updated by the auditor on May 29, 2018, indicate that PSD for carbon monoxide (CO) and NOx may have been triggered in connection with the 2001 GOHT Project if updated FL-0404 emissions data from recent monitoring under NSPS Ja were to be applied retroactively.	A draft application to revise NSR Permit No. 0195-M37 to reflect increased flare emission limits has been prepared and discussed with the NMED, and it is anticipated that a final application will be submitted by end of 4th quarter 2019. The GOHT Project Impact Analysis was submitted to NMED in Dec 2018. Based on current review, BACT for CO and NOx is not expected to require any reductions below current emission levels or the installation of any control equipment.

PART 1 B General Conditions

Deviation Summary Table for deviations not yet reported. (cont.)				
No.	Applicable Requirement (Include Rule Citation)	Emission Unit ID(s)	Cause of Deviation	Corrective Action Taken
5	40 CFR Part 60, Subpart NNN 40 CFR Part 60, Subpart RRR	FUG-09- N.ALKY Alky Flare (FL 0403)	A recent third party audit of NSPS Subparts NNN and RRR applicability to potentially covered equipment and processes indicates that the Alkylation Unit Depropanizer (W-623) and reactor may be subject to these rules, respectively. This is under review.	Corrective actions are not anticipated to include installation of additional controls. This is because (1) W-623 is already tied into the flare system, and based on current review, should satisfy Subpart NNN control requirements, and (2) the reactor vents to W-623 and it would not be subject to control requirements under Subpart RRR, per 40 CFR 60.700(c)(5). Potential reporting and monitoring corrective actions are under review, and at least NSPS reporting will be addressed during 4th quarter 2019.
6	40 CFR 60.(c)(3) 40 CFR 60.13(h)(2); and counterpart NESHAP provisions	CEMS	The results of a recent voluntary third-party environmental audit of the continuous emissions monitoring system program identified potential deviations from provisions governing CEMS downtime calculation and related excess emissions and monitoring system performance reports.	Navajo submitted a self-disclosure to the NMED on 7/11/2019 addressing these issues. Navajo will perform a review of the methodology used to determine valid CEMS data periods and monitor downtime and to calculate and report excess emissions and assess applicable protocols. The CEMS downtime calculation methodology and determination of valid CEMS periods have been revised going forward.
7	A201 20.2.72.200(A)(3) NMAC	Engines	Based on the results of a recent voluntary third-party environmental audit, the model number and manufacture date for a small number of onsite portable, diesel-powered air compressors do not match those authorized in NSR Permit PSD-NM-0195-M37.	Navajo will submit a permit revision application to update the engine specification for the identified air compressors.

Deviation Summary Table (cont.)

	Deviation Started		Deviation Ended					Did you attach an excess emission form?
No.	Date	Time	Date	Time	Pollutant	Monitoring Method	Amount of Emissions	
1	09/01/2018	00:00	08/31/2019	23:59	NOx, CO, VOC, & SO2	CEMS/Pi Data	Unknown	☒ Yes ☐ No
2	N/A	N/A	N/A	N/A	N/A	CEMS/Pi Data (See Note 2)	N/A	☐ Yes ☒ No
3	N/A	N/A	N/A	N/A	Various	Pi Data, Calculations	N/A	☐ Yes ☒ No
4	N/A	N/A	N/A	N/A	CO, NOx	Pi Data	Under Review	☐ Yes ☒ No
5	09/01/2018	00:00	08/31/2019	23:59	VOC	CEMS/Pi Data	N/A	☐ Yes ☒ No
6	N/A	N/A	N/A	N/A	N/A	CEMS Calculation	Under Review	☐ Yes ☒ No
7	09/01/2018	00:00	08/31/2019	23:59	N/A	N/A	N/A	☐ Yes ☒ No

Note 1

Consistent with prior reporting and previous discussions with NMED, this table does not include deviations previously reported to NMED, including in reports under the NSPS, MACT, or other programs.

Note 2

Refer to attached Table of Events Summary.

Table of Events Summary
(<300 BTU)

No.	Deviation Started Date/Time	Deviation Ended Date/Time	Pollutant	Monitoring Method	Amount of Emissions	Excess Emission Form?
2	12/10/2018 23:00	12/11/2018 11:00	N/A	Pi Data	N/A	No
(FL-0400)	02/20/2019 13:00	02/20/2019 14:00	N/A	Pi Data	N/A	No
	06/20/2019 16:00	06/20/2019 19:00	N/A	Pi Data	N/A	No
2	12/10/2018 12:00	12/10/2019 13:00	N/A	Pi Data	N/A	No
(FL-0401)						
2	09/11/2018 16:00	09/11/2018 18:00	N/A	Pi Data	N/A	No
(FL-0404)	12/11/2018 11:00	12/11/2018 12:00	N/A	Pi Data	N/A	No
	12/27/2018 04:00	12/27/2018 11:00	N/A	Pi Data	N/A	No



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525 Camino de Los Marquez - Suite 1 - Santa Fe, NM 87505
Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-01	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0400
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	North Plant Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
- ☒ 20.2.70 NMAC (Title V)
- ☐ 40 CFR 60 (NSPS)
- ☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

☒ Malfunction	SS or SM Notification:	
☐ Startup	Date:	
☐ Shutdown	Explain:	
☐ Emergency		
☐ Schedule Maintenance		
☒ Title V Deviation	Affirmative Defense Claim:	Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



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 Compliance and Enforcement Section
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 Phone (505) 476-4300 - Email: nmenv-aqbeer@state.nm.us



Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-02	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0401
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	South Plant Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
☐ Startup
☐ Shutdown
☐ Emergency
☐ Schedule Maintenance
☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

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Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-03	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0402
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	FCC Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
☐ Startup
☐ Shutdown
☐ Emergency
☐ Schedule Maintenance
☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

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Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-04	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0403
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	Alky Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
☐ Startup
☐ Shutdown
☐ Emergency
☐ Schedule Maintenance
☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Averaging Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period

SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

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Title: Environmental Specialist

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Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-05	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	FL-0404
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	GOHT Flare
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
☐ Startup
☐ Shutdown
☐ Emergency
☐ Schedule Maintenance
☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
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SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



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Excess Emissions Reporting Form

SECTION 1 - GENERAL INFORMATION

AI Number:	198	Emission Unit No.:	Unit 55
Activity Number:	000198-09292016-06	Emission Unit Desc:	General Plant, Racks, and Flares
Facility Name:	Navajo Refining Company LLC	Release Point No.:	Flare Malf Cap
Company Name:	Navajo Refining - Artesia Refinery	Release Point Desc.:	Upset and Malfunction Emissions
Source Is:	Stationary Source? Yes	Discovery Date/Time:	11/01/2015 00:00
	Portable Source? No	Start Date/Time:	11/01/2015 00:00
Portable Location:	UTM:	End Date/Time:	
	Lat: Long:	1st Business Day after Discovery:	11/02/2015
Title V Permit No.:	P051-R2M1	Submission Status:	Initial EER
NSR Permit No.:	PSD0195-M37		

Firstname / Lastname:	Raymond Smalts	Office Phone:	575-746-5490	Extn.:	
E-mail Address:	ray.smalts@hollyfrontier.com	Cell Phone:			

SECTION II - REPORTING REQ.

Reporting Requirement:

- ☒ 20.2.7 NMAC
☒ 20.2.70 NMAC (Title V)
☐ 40 CFR 60 (NSPS)
☐ 40 CFR 63 (MACT)

SECTION III - EVENT TYPE

- ☒ Malfunction
☐ Startup
☐ Shutdown
☐ Emergency
☐ Schedule Maintenance
☒ Title V Deviation

SS or SM Notification:

Date:

Explain:

Affirmative Defense Claim: Yes

SECTION IV - CAUSE AND NATURE OF EVENT

Detailed Description:

It was discovered that on approximately 11/01/2015, Navajo had potentially exceeded the permitted TPY limits for NOx, SO2, CO, and VOC.

SECTION V - STEPS TAKEN TO LIMIT DURATION OF EXCESS EMISSION

Detailed Description:

SECTION VI - CORRECTIVE MEASURES TAKEN

Detailed Description:

SECTION VIII - EXCESS EMISSION DETAIL LINES

Pollutant	Duration of Event (hh:mm)	Emission Limits or Averaging Standards	Period	Excess Emissions for Event	Number of Exceedences	Average Emission Rate for Averaging Period
-----------	---------------------------	--	--------	----------------------------	-----------------------	--

SECTION IX - BASIS OF ESTIMATE

- ☐ Compliance Testing
☐ Continuous Emission Monitor
☐ Calculation
☐ Operating Log(s)
☐ Other:

SECTION X - Submission

By clicking on the Certify button, I agree to the following:

After reasonable inquiry, I certify this report as true, accurate and complete.

Reporting Official: Raymond Smalts

Title: Environmental Specialist

Date: 09/29/2016



SUSANA MARTINEZ
GOVERNOR

JOHN A. SANCHEZ
LIEUTENANT GOVERNOR

New Mexico
ENVIRONMENT DEPARTMENT

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RYAN FLYNN
CABINET SECRETARY

BUTCH TONGATE
DEPUTY SECRETARY

Air Quality Bureau
NEW SOURCE REVIEW PERMIT
Issued under 20.2.72 NMAC

Certified Mail No: 7013 2630 0000 9073 8649
Return Receipt Requested

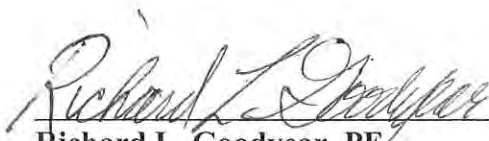
NSR Permit No: PSD-NM-0195-M37
Facility Name: Artesia Refinery
Facility Owner: Robert O'Brien
Operator/Permittee Name: HollyFrontier Navajo Refining LLC
Mailing Address: P.O. Box 159
Artesia, New Mexico 88211-0159

TEMPO/IDEA ID No: 198 – PRN20160002
AIRS No: 35-015-0010

Permitting Action: PSD Minor Modification
Source Category: Major-TV and PSD with BACT

Facility Location: UTMH 557021 m, UTMV 3633819 m, UTMZ 13
County: Eddy, Datum: NAD27

Air Quality Bureau Contact Joseph Kimbrell
Main AQB Phone No. (505) 476-4300


Richard L. Goodyear, PE
Bureau Chief
Air Quality Bureau

AUG 12 2016
Date



**Air Quality Bureau
NEW SOURCE REVIEW PERMIT
Issued under 20.2.72 NMAC**

Certified Mail No: 7013 2630 0000 9073 8649

Return Receipt Requested

NSR Permit No:	PSD-NM-0195-M37
Facility Name:	Artesia Refinery
Facility Owner:	Robert O'Brien
Operator/Permittee Name:	HollyFrontier Navajo Refining LLC
Mailing Address:	P.O. Box 159 Artesia, New Mexico 88211-0159
TEMPO/IDEA ID No:	198 – PRN20160002
AIRS No:	35-015-0010
Permitting Action:	PSD Minor Modification
Source Category:	Major-TV and PSD with BACT
Facility Location:	UTMH 557021 m, UTMV 3633819 m, UTMZ 13
County:	Eddy, Datum: NAD27
Air Quality Bureau Contact Main AQB Phone No.	Joseph Kimbrell (505) 476-4300

**Richard L. Goodyear, PE
Bureau Chief
Air Quality Bureau**

Date

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PART B GENERAL CONDITIONS (Attached)

PART C MISCELLANEOUS: Supporting On-Line Documents; Definitions; Acronyms (Attached)

PART A FACILITY SPECIFIC REQUIREMENTS

A100 Introduction

- A. This permit PSD-NM-0195-M37 supersedes all portions of Air Quality Permit PSD-NM-0195-M36, issued January 27, 2016, except the portion requiring compliance tests. Compliance test conditions from previous permits, if not completed, are still in effect, in addition to compliance test requirements contained in this permit.
- B. The permit limits and control methods below are BACT, and any change or revision of these limits or control methods must be applied for in accordance with PSD, 20.2.74 NMAC, including the public notice.
- (1) NO_x - The steam-methane reformer furnace (H-9851) shall be equipped with a selective catalytic reduction (SCR) control system to reduce NO_x emissions to 0.0125 lb per MM Btu (LHV basis) on a hourly rolling 3-hour average basis at 3% excess oxygen. The SCR exhaust is limited to 7 ppmv ammonia slip, measured on a wet basis. During startup, shutdown, schedule maintenance or malfunction of the SCR control system, BACT for H-9851 shall be ultra low NO_x burners emitting no more than 0.03 lb per MMBtu (LHV) on a hourly rolling 3-hour average basis at 3% excess oxygen. Pound per hour and tons per year limits are based on the lb/MMBtu limits and were used to demonstrate compliance with the lb/MMBtu limits and the Ambient Air Quality Standards (AAQS).
 - (2) NO_x - The remaining process heaters H-2501, H-3402, and H-3101 shall be equipped with Next Generation Ultra-Low NO_x Burners (NGULNBs) emitting no more than 0.03 lb NO_x per MM Btu (LHV basis) on a hourly rolling 3-hour average basis at 3% excess oxygen. Pound per hour and tons per year limits are based on the lb/MMBtu limits and were used to demonstrate compliance with the lb/MMBtu limits and the (AAQS).
 - (3) CO – The steam-methane reformer furnace H-9851 and the ROSE-2 hot oil heater H-2501 are each limited to 0.06 lb CO per MM Btu (LHV basis) on a hourly rolling 3-hour average basis. Pound per hour and tons per year limits are based on the lb/MMBtu limits and were used to demonstrate compliance with the lb/MMBtu limits and the (AAQS).
 - (4) CO - The other proposed process heaters H-3402, and H-3101 are each limited to 0.09 lb CO per MM Btu (LHV basis) on a hourly rolling 3-hour average basis. Pound per hour and tons per year limits were based on the lb/MMBtu limits and are used to demonstrate compliance with the lb/MMBtu limits and the (AAQS).

- (5) VOC – The combustion sources proposed in Permit 195-M25 (Units SRU-TGI, H-2501, H-3101, and H-3402,) shall exclusively combust gaseous fuels. Gaseous fuels is defined as purchased natural gas, refinery gas or a combination of natural and refinery gas but does not include liquid or solid fuel.
- (6) PM10 – The combustion sources proposed in Permit 195-M25 (Units SRU-TGI, H-2501, H-3101, and H-3402,) shall exclusively combust gaseous fuels.
- (7) SO₂ – Fuel sulfur limit Refinery-Wide for all units burning refinery fuel gas (excluding units H-8801, H-8802 and H-9851 which burn only natural gas) shall not exceed 60 ppmv H₂S on a daily rolling 365-day average. The ton/yr emission rates for SO₂ in Table 106.A of this permit are based on this daily rolling 365-day average 60 ppmv H₂S limit. Compliance with this limit shall be demonstrated per the methods described in Condition A110.A.
- (8) SO₂ – The Sulfur Recovery Unit No. 3 Tail Gas Incinerator (SRU3-TGI) is limited to 192 ppmvd SO₂ at zero percent oxygen on a hourly rolling 12-hour average basis. In addition, SRU3-TGI is limited to 192 ppmvd SO₂ at zero percent oxygen on a daily rolling 365-day average basis.
- (9) VOC – The naphtha storage tank T-1225 and sour water storage tank T-0737 shall be equipped with an external floating roof using double seals to reduce VOC emissions to the atmosphere. The maximum true vapor pressure of any volatile organic liquid stored in either tank shall not exceed 11.0 psia. Demonstration of compliance is through the NSPS Kb and MACT emission limits.
- (10) VOC – All fugitive piping components in VOC service associated with the process units proposed in Permit 195-M25 (Units FUG-25-ROSE-2, FUG-31-SRU3/TGI3/TGI3, and FUG-34-Hydorcracker) shall be monitored under the MACT subpart CC leak detection and repair program, or an approved equivalent program, to reduce VOC emissions.
- (11) VOC – Consistent with MACT Subpart CC, the gasoline truck loading rack (TLO-4) shall be limited to 10 mg of VOC emissions per liter of gasoline loaded.
- (12) PM10 – Cooling towers, Units Y-0011 and Y-0012, shall be equipped with high-efficiency drift eliminators to reduce PM10 emissions. Demonstration of compliance is through annual inspection in accordance with in Condition A212.A.
- (13) For Boiler Unit B-0009: BACT NO_x limit of 0.02 lb/MM Btu, CO₂ limit of 112.1 lb/MM Btu. The unit shall be designed and equipped with control devices and enhancements to effect reduction of Green House Gases through improved process controls. BACT has been determined and includes the use of the following energy efficiency control methods which would be the most feasible GHG BACT options based on energy, economic, and environmental aspects:
 - Operation and Maintenance (BACT #6):
 - Periodic Boiler Tuning – The boilers are tuned periodically to maintain optimal thermal efficiency.

- Periodic Boiler Inspection and Repair for air leakage – The boilers are inspected periodically to maintain optimal thermal efficiency.
 - Periodic Boiler Inspection and Cleaning for tube fouling.
 - Condensate recovery through periodic steam trap inspections and repairs.
 - Next Generation Ultra-low-NO_x high efficiency burners (NGULNB) (#5)
 - Flue gas economizer (#2) – Use of a heat exchanger to recover heat from the exhaust gas to preheat incoming boiler feedwater to attain industry standard performance (IMO) for thermal efficiency.
 - Boiler insulation (#4).
 - Oxygen Trim Control (#7) – Monitoring of oxygen concentration in the flue gas is conducted, and the inlet air flow is adjusted to maximize thermal efficiency.
 - Boiler blowdown minimization using manual analysis (#3) – Minimize blowdowns from the boiler to keep emissions at a minimum.
 - Condensate recovery (#8).
- C. The permittee is under a Consent Decree CIV-01 1422LH Lodged 12/20/2001, Entered 3/5/2002 and referenced throughout this document as the “Consent Decree” or “CD” with reference numbers from that document.

A101 Permit Duration (expiration)

- A. The term of this permit is permanent unless withdrawn or cancelled by the Department.

A102 Facility: Description

- A. The function of the facility is to process crude oil and petroleum distillates into petroleum products such as diesel, gasoline and asphalt.
- B. This facility is located in the city limits of Artesia, NM.
- C. The modification and permit revisions consist of:
- (1) Authorizing process equipment modifications to increase production at the following units:
 - (a) Unit FUG-06-NH DU – Naphtha Hydrodesulfurization Unit
 - (b) Unit FUG-13-NH DU – Naphtha Hydrodesulfurization Unit
 - (c) Unit FUG-20-ISOM – BenFree Unit (previously identified as Isom Unit)
 - (d) Unit FUG-33-DIST HDU – Diesel Hydrodesulfurization Unit, and
 - (e) Additionally, a stream from Unit 44 (Gas Oil Hydrotreater) will be routed to Unit 33.
 - (2) Remove the following storage tanks that are out of service: T-0013, T-0058, T-0404, T-0405, T-0409, T-0810, and T-0078 which was never constructed.

- (3) TK-NEWETHANOL and TK-BIODIESEL were originally permitted as an external floating roof tank and fixed roof tank; however, both were constructed as internal floating roof tanks. Permit representations for these tanks are being updated with the as constructed information and tank ID Numbers: T-0451 and T-0452.
- (4) SSM T-0078, SSM T-0079, and SSM T-1225 are being removed from the permit. SSM tank emissions are included under ID “SSM Tanks” which is being updated as part of the project.
- (5) SSM Misc 1 for catalyst handling emissions is being removed from Table 2A and is exempted on Table 2B. Emissions associated with changing catalyst at the refinery meet exemption criteria in 20.2.72.202.B.5.

The description of this modification is for informational purposes only and is not enforceable.

- D. Table 102.A and Table 102.B show the total potential emissions from this facility for information only, not an enforceable condition, excluding exempt sources or activities.

Table 102.A: Total Potential Pollutant Emissions from Entire Facility

Pollutant	Emissions (tons per year)
Nitrogen Oxides (NO _x)	729.6
Carbon Monoxide (CO)	1281.9
Volatile Organic Compounds (VOC)	1531.0
Sulfur Dioxide (SO ₂)	374.1
Total Suspended Particulates (TSP)	207.1
Particulate Matter less than 10 microns (PM ₁₀)	207.1
Particulate Matter less than 2.5 microns (PM _{2.5})	207.1
Hydrogen Sulfide (H ₂ S)	4.7
Greenhouse Gas (GHG) (CO ₂ e)	>100,000

Note: Total Potential Pollutant Emissions in Table 102.A, may include fugitive emissions; routine or predictable, startup, shutdown, and maintenance emissions (SSM); and permitted malfunction allowances if these are a sources of regulated air pollutants from this facility.

Table 102.B: Total Potential Hazardous Air Pollutants (HAPs)* and State Toxic Air Pollutants (TAPs)

Pollutant	Emissions (tons per year)
Ammonia	6.1
Benzene	36.26
Ethylbenzene	16.39
Toluene; (Methyl benzene)	27.63
Xylenes (total); (Xylol)	14.03

Table 102.B: Total Potential Hazardous Air Pollutants (HAPs)* and State Toxic Air Pollutants (TAPs)

Pollutant	Emissions (tons per year)
Hexane	144.71
Total HAPs**	239.04

* HAP emissions are included in the Table 102.A VOC emissions total.

** Total HAP emissions may not agree with the sum of individual HAPs because only individual HAPs emitted at a rate greater than 1.0 ton per year are listed in Table 102.B.

A103 Facility: Applicable Regulations

- A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A.

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
20.2.1 NMAC General Provisions	X	Entire Facility
20.2.3 NMAC Ambient Air Quality Standards	X	Entire Facility
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.33 NMAC Gas Burning Equipment -- Nitrogen Dioxide	X	Affected sources in Table 103.E
20.2.37 NMAC Petroleum Processing Facilities	X	Entire Facility unless repealed
20.2.38 NMAC Hydrocarbon Storage Facilities	X	Entire Facility
20.2.61 NMAC Opacity	X	Combustion sources if 20.2.37 NMAC is repealed.
20.2.70 NMAC Operating Permits	X	Entire Facility
20.2.71 NMAC Operating Permit Emission Fees	X	Entire Facility
20.2.72 NMAC Construction Permit	X	Entire Facility
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	Entire Facility
20.2.74 NMAC Prevention of Significant Deterioration	X	Entire Facility
20.2.75 NMAC Construction Permit Fees	X	Entire Facility
20.2.77 NMAC New Source Performance	X	Units subject to 40 CFR 60
20.2.78 NMAC Emission Standards for Hazardous Air Pollutants (HAPs)	X	Units subject to 40 CFR 61
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Units subject to 40 CFR 63
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
40 CFR 60, Subpart A, General Provisions	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart Db “Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units”	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Dc “Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, Which Construction, Reconstruction, or Modification Commenced After June 9, 1989”	X	H-0464; H-3101
40 CFR 60, Subpart J, “Standards of Performance for Petroleum Refineries”	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Ja, “Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007”	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart K, “Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978”	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Ka, “Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984”	X	See Tables <u>103.B</u> to 103.J
40 CFR 60, Subpart Kb, “Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984”	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart GGG, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after January 4, 1983, and on or before November 7, 2006.	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which construction, reconstruction, or modification commenced after November 7, 2006.	X	See Tables <u>103.B</u> to 103.K

Table 103.A: Applicable Requirements

Applicable Requirements	Federally Enforceable	Unit No.
40 CFR 60, Subpart QQQ, Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems	X	See Tables <u>103.B</u> to 103.K
40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	X	See Tables <u>103.B</u> to 103.K
40 CFR 61, Subpart A, General Provisions	X	Entire Facility
40 CFR 61, Subpart FF, National Emission Standards for Benzene Waste Operations	X	Benzene Waste Operations
40 CFR 63, Subpart A, General Provisions	X	Entire Facility
40 CFR 63, Subpart CC	X	See Tables <u>103.B</u> to 103.K
40 CFR 63 Subpart DDDDD	X	See Tables <u>103.B</u> to 103.K
40 CFR 63 Subpart UUU, Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units	X	See Tables <u>103.B</u> to 103.K
40 CFR 63, Subpart ZZZZ, <u>National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines</u>	X	See Tables <u>103.B</u> to 103.K
40 CFR 68, (RMP), Section 112(r) Accidental Release	X	Entire Facility
Consent Decree CIV-01 1422LH Lodged 12/20/2001, Entered 3/5/2002	X	Entire Facility

Note: Tables 103.B through 103.K are located in Attachment D.

Table 103.B, Summary Applicability – Fugitives

Table 103.C, Summary Applicability – Tanks

Table 103.D, Summary Applicability – Loading

Table 103.E, Summary Applicability – Heaters and Boilers

Table 103.F, Summary Applicability – Cooling Towers

Table 103.G, Summary Applicability – Wastewater

Table 103.H, Summary Applicability – FCC-CCR

Table 103.I, Summary Applicability – SRU

Table 103.J, Summary Applicability – EnginesTable 103.K, Summary Applicability – Flares**A104 Facility: Regulated Sources**

- A. Table 104.A (attached) lists the emission units authorized for this facility. Emission units that were identified as NSR exempt or Title V Insignificant activities and/or equipment not regulated pursuant to the Act are not included.

A105 Facility: Control Methods

- A. Table 105.A lists all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.

Table 105.A: Control Methods:

Control Equipment Unit No.	Control Description	BACT Yes or No	Pollutant being controlled	Control for Unit Number(s)¹
FCC Regenerator Scrubber	Fluid Catalytic Cracking Unit Regenerator Cyclones + Wet Gas Scrubber	NO	PM & SO ₂	FCC Regenerator
CHLOR SORB [®]	CCR Regenerator Vent Control	NO	Chloride	CCR Regenerator Vent
FL-0400	North Plant Flare	NO	VOC & H ₂ S	Refinery process units
FL-0401	South Plant Flare	NO	VOC & H ₂ S	Refinery process units
FL-0402	FCC Flare	NO	VOC & H ₂ S	Refinery process units
FL-0403	Alky Flare	NO	VOC	Refinery process units
FL-0404	GOH Flare	NO	VOC & H ₂ S	Refinery process units
FL-HEP-PORT	Portable Flare for Holly Energy Partners (HEP) Pipeline Pigging Operations	NO	VOC	Pipeline Pigging Operations
H-0473	Sulfur Recovery Units No. 1 & 2 Tail Gas Incinerator	NO	Sulfur	SRU1 and SRU2

Table 105.A: Control Methods:

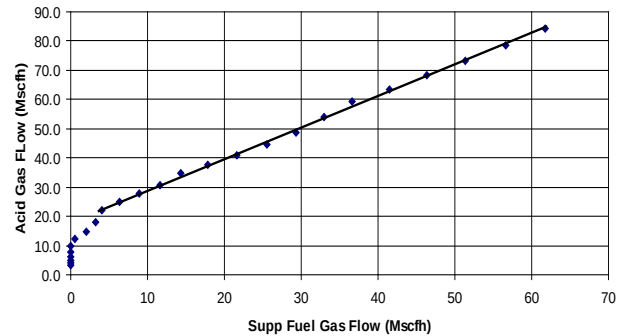
Control Equipment Unit No.	Control Description	BACT Yes or No	Pollutant being controlled	Control for Unit Number(s)¹
SCR	Selective Catalytic Reduction + ultra-low NOx burners	YES	NO _x	H-9851
SRU3-TGI	Sulfur Recovery Unit No. 3 Tail Gas Incinerator	YES	Sulfur	SRU3
SRU3/TGTU3/TGI3	Best Work Practices, <u>A207.B</u> (BACT)	YES	SO ₂	SRU3
D-0829/0830	Main API Carbon Canisters	NO	VOC	MAIN API
Y-0011, Y-0012	Drift Eliminators on Cooling Towers (BACT)	YES	PM	Y-0011, Y-0012
T-0737, T-1225	External Floating Roofs (BACT)	YES	VOC	T-0737, T-1225
See <u>Tables 106.B(1) and (2)</u>	External and Internal Floating Roofs (None-BACT)	NO	VOC	See Tables 106.B(1) and (2)
B-0009	Energy Efficiency, <u>A204.N</u> (BACT)	Yes	Greenhouse Gases	B-0009
H-2501, H-3402, H-3101	ultra-low NOx burners (BACT)	Yes	NO _x	H-2501, H-3402, H-3101
SRU-TGI, H-2501, H-3402, H-3101	Combust gaseous fuels only	Yes	VOC, PM	SRU-TGI, H-2501, H-3402, H-3101

1 Control for unit number refers to a unit number from the Regulated Source List

- B. In accordance with the requirement that Navajo Refining prevent exceedances of the 24-hour and 3-hour National Ambient Air Quality Standards (NAAQS) for SO₂ during major refinery malfunctions, Navajo Refining shall only flare acid gas from existing Flare FL-0403 according to Navajo Refining's "Phase Two" plan dated January 5, 1996 and received by the Department on January 8, 1996, or from Flare FL-0400. Navajo shall undertake the following measures for acid gas flaring from FL-0400 and FL-0403.

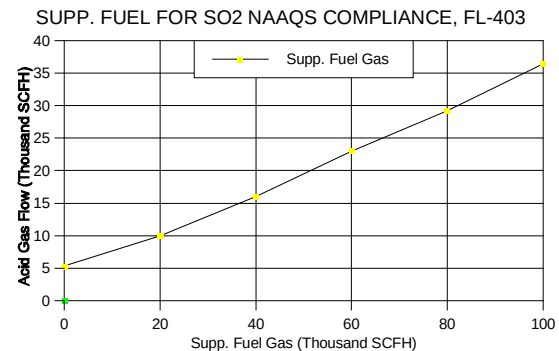
- (1) Existing Flare FL-0400 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough heat to supplement the heat released by combustion of the acid gas itself and the heat provided by smoke-suppressing steam. The minimum flow rate of supplemental fuel gas to be supplied during acid gas flaring such that compliance with the NAAQS for SO₂ is assured shall be determined using Chart No. 1. The fuel gas used for this purpose shall be sweetened fuel gas or sweet natural gas (see definition at C101.E).

CHART NO. 1
SUPP FUEL FOR SO₂ NAAQS COMPLIANCE, FL-400



- (2) Existing Flare FL-0403 shall be equipped with a flare tip or burners to supply supplemental fuel gas to provide enough supplemental heat. The volume of supplemental fuel gas to be provided to generate enough supplemental heat to ensure compliance with NAAQS for SO₂ shall be determined using Chart No. 2. The supplemental heat to be provided when flaring the maximum quantity of acid gas has been determined to be 52.9 million BTU per hour which is generated by burning 96,200 SCFH of supplemental fuel gas. This assumption has been made to ensure compliance with the NAAQS for SO₂. The fuel gas used for this purpose shall be sweetened fuel gas or sweet natural gas.

CHART NO. 2



C. Beginning December 20, 2001 no fuel oil shall be burned in combustion units except as follows: (CD ¶17.C)

- (1) Torch Oil may be burned in the FCC Regenerator during FCC start-ups; and.
- (2) Fuel Oil may be burned in combustion units after the establishment of FCC NO_x emissions limits pursuant to permit condition A110.A, provided that emissions from any such combustion units are routed through the FCC Wet Gas Scrubber and Navajo demonstrates, with the approval of EPA, that the NO_x emissions limits contained therein and the SO₂ emissions limits stated in A106.A will continue to be met.

- D. The Artesia Refinery FCC was initially limited to less than 20,000 BPD capacity. Following the December 2003 expansion of the Artesia refinery's FCC as authorized by permit 195-M15, the catalyst regenerator for the FCC is subject to the minimum requirements for continuous emission monitoring and recording set forth in Appendix P to 40 CFR Part 51. Consent Decree Paragraph 15 required the FCC to be subject to NSPS Subpart J for opacity as of December 31, 2003. A wet gas scrubber was installed in 2003. An Alternative Monitoring Plan (AMP) request was submitted to EPA on December 31, 2003 because a continuous opacity monitoring system (COMS) will not work on a wet gas scrubber exhaust because of the interference from the water vapor. The AMP satisfies the requirements for both NSPS Subpart J and 40 CFR Part 51 Appendix P.

A106 Facility: Allowable Emissions

- A. The following Section list the emission units and their allowable emission limits. (See Table 103.A for all applicable regulations)

Table 106.A: Allowable Emissions (attached)

- B. The permitted emission sources at the refinery shall consist only of the sources listed in Table 106.A and Tables 106.B through 106.I and 107.A of this permit.

- C. Compliance with Allowable Emission Limits

Requirement: The allowable mmBtu/hr, lb/mmBtu, lb/hr, and tpy emission limits for equipment listed in Table 106.A construction are based on an hourly rolling 3-hour average.
Monitoring: For units with lb/mmBtu emission limits in Table 106.A, the Permittee shall monitor the lb/mmBtu to demonstrate compliance with the mmBtu/hr, lb/hr, and tpy emission limits.
Recordkeeping: To demonstrate compliance, records shall be kept on a monthly basis showing the correlation between lb/mmBtu and hourly and 12-month rolling yearly totals. The records shall also document any non-compliance with emission limits. For each unit, a summary of the method used to determine compliance shall be recorded. The permittee shall maintain records in accordance with Section B109.
Reporting: The permittee shall report in accordance with Section B110.

- D. BACT SO₂ Limit – Fuel sulfur limit Refinery-Wide for all units burning refinery fuel gas (excluding units H-8801, H-8802 and H-9851 which burn only natural gas) shall not exceed 60 ppmv H₂S on a daily rolling 365-day average. The ton/yr emission rates for SO₂ in Table 106.A of this permit are based on this daily rolling 365-day average 60 ppmv H₂S limit. Compliance with this limit shall be demonstrated per the methods described in Condition A110.A.

- E. BACT NO_x Limit - In addition to the emission limits shown in Table 106.A, Boiler Unit B-0009 has a BACT NO_x limit of 0.02 lb/MM Btu, and CO₂ limit of 112.1 lb/MM Btu.
- F. BACT SO₂ Limit – The Sulfur Recovery Unit No. 3 Tail Gas Incinerator (SRU3-TGI) is limited to 192 ppmvd SO₂ at zero percent oxygen on a hourly rolling 12-hour average basis. In addition, SRU3-TGI is limited to 192 ppmvd SO₂ at zero percent oxygen on a daily rolling 365-day average basis.
- G. BACT VOC Limit – The naphtha storage tank T-1225 and sour water storage tank T-0737 shall be equipped with an external floating roof using double seals to reduce VOC emissions to the atmosphere. The maximum true vapor pressure of any volatile organic liquid stored in either tank shall not exceed 11.0 psia. Demonstration of compliance is through the NSPS Kb and MACT emission limits.
- H. VOC – All fugitive piping components in VOC service associated with the process units proposed in Permit 195-M25 (Units FUG-25-ROSE-2, FUG-31-SRU3/TGI3/TGI3, and FUG-34-Hydorcracker) shall be monitored under the MACT subpart CC leak detection and repair program, or an approved equivalent program, to reduce VOC emissions.
- I. VOC – Consistent with MACT Subpart CC, the gasoline truck loading rack (TLO-4) shall be limited to 10 mg of VOC emissions per liter of gasoline loaded.
- J. PM₁₀ – Cooling towers, Units Y-0011 and Y-0012, shall be equipped with high-efficiency drift eliminators to reduce PM₁₀ emissions. Demonstration of compliance is through annual inspection in accordance with in Condition A212.B.

A107 Facility: Allowable Startup, Shutdown, & Maintenance (SSM) and Malfunction Emissions

- A. The maximum allowable SSM emission limits for specific units are listed in Table 107.A and were relied upon by the Department to determine compliance with applicable regulations.

Table 107.A: Allowable SSM and Malfunction Emissions Units, Activities, and Emission Limits (attached)

- B. The authorization of emission limits for startup, shutdown, maintenance, (SSM) and malfunction does not supersede the requirements to minimize emissions according to Conditions B101.C and B107.A.

C. SSM Flaring and combustion Emissions

Requirement: The permittee shall comply with the flaring and combustion SSM NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emission limits at Table 107.A for the following SSM events:

- 1) SSM H-9851, Emissions during SCR downtime

2) SSM SRU-TGI, Emissions from SRU3 startup and shutdown 3) SSM FL-HEP-PORT, Temporary, portable flare for natural gas pipeline maintenance 4) SSM SRU2-TGI (H-0473), Emissions from SRU2 startup and shutdown 5) SSM Flare Cap, Emissions from venting SSM activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404 6) SSM Misc 2, Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as heat exchanger repair.
Monitoring: The permittee shall monitor all flaring and combustion due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting all the SSM flaring and combustion information specified in A107C. Recordkeeping.
Recordkeeping: The permittee shall record the date, start and end times, and duration of every SSM flaring or combustion event. The NO_x, CO, VOC, SO₂, TSP, PM₁₀, and H₂S emissions shall be calculated for each event based on the volume of gas sent to the flare and the total sulfur content of the flared gas. Compliance with the hourly emission rates shall be demonstrated by calculating the hourly emission rates for each event and comparing the results to the hourly emission rate at Table 107.A. The annual emission rate shall be calculated as follows: 1) To demonstrate compliance during the first 12-months of monitoring, the permittee shall calculate and sum the monthly cumulative total of NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emissions; and 2) After the first 12-months of monitoring, the permittee shall calculate and sum the total of NO_x, CO, VOC, SO₂, TSP, PM₁₀, PM_{2.5}, and H₂S emissions on a monthly rolling 12-month basis. 3) The permittee shall maintain all records in accordance with Section B109.
Reporting: The permittee shall report in accordance with Section B110.

D. SSM VOC Emissions (Facility-Wide, Non-Combustion Sources)

Requirement: The permittee shall comply with the SSM VOC emission limit at Table <u>107.A</u>.
Monitoring: The permittee shall monitor all VOC emission activities due to routine and predictable startups, shutdowns, and scheduled maintenance events. This shall be accomplished by collecting VOC emission calculation information for the following SSM VOC emission activities: 1) SSM T-0737, Emissions from roof landing 2) SSM Tanks Miscellaneous
Recordkeeping: The annual SSM VOC emission rate shall be calculated as follows: 1) To demonstrate compliance during the first 12-months of monitoring the permittee shall calculate and sum the monthly cumulative total of VOC emissions; and 2) After the first 12-months of monitoring the permittee shall calculate and sum the total of VOC emissions on a monthly rolling 12-month basis, including the methodology and/or assumptions used in the calculation(s). The permittee shall keep records to demonstrate compliance in accordance with Condition B109C, except the requirement in B109.C(2) to

record the start and end times of SSM events shall not apply to known quantities of VOC emissions.

3) The permittee shall maintain all records in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

E. SSM and Malfunction Flaring Emissions (SSM Flare Cap and Flares Malfunction Cap)

Requirement: The permittee shall not exceed the pound per hour (pph) and ton per year (tpy) emission limits in Table A107.A and shall demonstrate compliance with these limits by calculating and summarizing these emission rates as required in recordkeeping.

Monitoring:

A gas flowmeter and flow totalizer, equipped with a chart recorder or electronic data logger, shall be installed in the flare line to measure and record the total standard cubic feet (scf) of all gas (process gas, purge gas, pilot gas, and supplemental fuel gas) sent to the flare during each hour and each month.

The permittee shall measure the H₂S content, the total sulfur content, the VOC content, and the heating value (Btu/scf) of the gas sent to the flare for combustion during SSM and malfunction events. H₂S shall be measured on each of the inlet gas types/streams using a stain tube of the appropriate size range or an inline H₂S monitor. The flow meter and flow totalizer shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings. If used, the inline monitor shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings.

Recordkeeping: The following records shall be kept:

- stain tube and/or inline H₂S measurements
- annual gas analysis
- both the hourly and monthly volume (scf) of gas sent to the flare for SSM or malfunction events.

Each event, the permittee shall record and summarize in a table format the following.

- H₂S and the total sulfur content
- percent VOC content
- gas heating value (Btu/scf)
- the maximum hourly gas flow rate (scf/hr) that occurred
- each hourly gas flow rate (scf/hr) for any hour(s) that exceeded any pph emission limit
- the total scf of gas sent to the flare
- the monthly rolling 12-month total of gas sent to each flare (scf/yr)

Each month, the permittee shall record all routine and predictable startups, shutdowns, and scheduled maintenance events and shall also meet the recordkeeping requirements in General Condition B109 of this permit, except the requirement to record the start and end times of SSM events shall not apply.

Records of flowmeter, totalizer, and inline monitor certifications, calibrations, documentation of the manufacturer's recommended calibration / maintenance schedule, breakdowns, reasons for the

breakdown, and corrective actions taken shall be maintained.

Each month, to demonstrate compliance with both the SSM and malfunction emission limits, the permittee shall calculate and summarize the maximum pph emission rate, any pph emission rate exceeding the permitted limits, and the monthly rolling 12-month total ton per year emission rates of NO_x, CO, VOC, SO₂, and H₂S for both SSM and malfunction events, using the following information:

- the H₂S content, total sulfur content, VOC content, and the gas heating value (MMBtu/scf) from the most recent H₂S measurements and gas analyses
- the emission factors used to calculate NO_x and CO
- the maximum hourly gas flow rate (scf/hr)
- each hourly gas flow rate (scf/hr) for any hour(s) that exceeded any pph emission limit during the month, including the dates and times of these occurrences
- the monthly rolling 12-month total of gas sent to the flare (scf/yr)

For each event, the permittee shall record whether the emissions are due to SSM and/or malfunction. If the emissions are due to malfunction, the permittee shall indicate whether the emissions resulting from the event are included in the amount allowed by this permit's malfunction limit or whether the event is reported under 20.2.7 NMAC.

Reporting: The permittee shall report according to Condition B110.

A108 Facility: Allowable Operations

- A. This facility is authorized for continuous operation. Monitoring, recordkeeping, and reporting are not required to demonstrate compliance with continuous hours of operation.

A109 Facility: Reporting Schedules

- A. The permittee shall report according to the Specific Conditions and General Conditions of this permit.
- B. In addition to the reports required by the applicable NSPS, NESHAP and MACT Subparts (including any voluntary programs referencing NSPS, NESHAP, or MACT Subparts) and by the applicable parts of 20.2 NMAC, the following information shall be submitted to the Department. The reports shall be submitted to the Air Quality Bureau within forty five (45) days of the end of each calendar quarter. If any reports indicate potential non-compliance with the terms of this permit, the Bureau may impose a more frequent reporting time-frame. The Department shall handle any confidential information in accordance with the provisions of 20.2.1.115 NMAC.
- C. Reporting required by the Consent Decree (not an exhaustive listing)
- (1) The permittee shall notify the Department's Enforcement Section, Air Quality Bureau in writing of the annual progress of installation of NO_x Control Technology required by Paragraph 16 of the Consent Decree. The report shall be submitted to the EPA and

the NMED on or before December 31st of each calendar year commencing with the year 2002. (CD ¶16.E)

- (2) No later than forty-five (45) days following the end of an AG Flaring or TG Incident, the permittee shall submit to EPA and the NMED a report that sets forth the items detailed in the Consent Decree. (CD ¶20, CD¶21)

A110 Facility: Fuel and Fuel Requirements

- A. Fuel, Fuel Sulfur, and NSPS J, Ja Sulfur Requirements (See Tables 103.E, H, I, & K, Summary of Applicable Requirements)

Requirement:

(1) To comply with NSPS Subpart J, NSPS Subpart Ja, and the PSD BACT requirements in A100.B(7), the permittee shall install, calibrate and maintain a continuous monitoring system (CMS) to continuously measure and record either the hydrogen sulfide (H₂S) in the refinery fuel gas streams being burned in the Heaters and Boilers or the concentration of sulfur dioxide emissions to the atmosphere.

(2) All stationary combustion equipment shall be fired with NSPS quality fuel gas with a maximum H₂S content of 0.1 grains/dscf (approx. 162 ppmv), based on an hourly rolling 3-hour average.

(3) All stationary combustion equipment shall not combust gas with an annual average sulfur content exceeding 0.037 grains/dscf (approx. 60 ppmv) as a daily rolling 365-day average.

(4) All stationary combustion equipment shall be affected facilities, as defined in NSPS 40 CFR Part 60, Subparts A and J or Ja, if refinery-produced fuel gas is combusted in the heaters and boilers, and shall comply with all applicable requirements of NSPS Subparts A and J or Ja.

(See Table 103.E, Summary of Applicable Requirements)

Monitoring:

(1) The permittee shall install, certify, calibrate, maintain and operate a fuel gas continuous monitoring system (CMS) at the fuel gas mix drum outlet in accordance with the requirements of 40 CFR §§ 60.11, 60.13, and Part 60 Appendix A, and the applicable performance specification of 40 CFR Part 60 Appendices B and F.

(2) The following CMS shall be certified initially and recertified annually:

- D-0019 Low Pressure Fuel Gas H₂S CMS
- D-0770 High Pressure Fuel Gas H₂S CMS

(3) As required by the EPA-approvable alternative monitoring procedure (AMP), CCR off-gas streams that enter the refinery fuel gas system downstream of the H₂S CMS shall be monitored quarterly for H₂S using gas detector tubes or an equivalent method as follows: (a) CCR stabilizer off gas stream, (b) H₂ recycle gas stream, and c) CCR feed stream.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subparts A, J, and Ja.

(1) Records of the quantity of the refinery fuel gas and the monthly average heating value of the refinery fuel gas. This is used to demonstrate compliance with lb/mmBTU limits and lb/hr limits shown in Table 106.A. (permit limit)

(2) Records of repairs, maintenance, and calibrations performed for the instruments that measure flow or concentration for an applicable permit limit shall be kept. Examples include, but are not limited to, CMS, acid gas flow meters, and fuel gas flow meters. (40 CFR 60, Appendix F)

(3) Records shall be kept of Alternative Monitoring Plan (AMP) H₂S analyses of the CCR off-gas streams that enter the refinery fuel gas system downstream of the fuel gas H₂S CMS. (NSPS J or Ja)

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subparts A, J, and Ja, and Section B110.

A111 Facility: 20.2.36 NMAC – repealed 1/29/2016

A. Facility: 20.2.36 NMAC was repealed by EIB in Fall of 2015 and the effective date is 1/29/2016.

A112 Facility: 20.2.37 NMAC

A. 20.2.37 NMAC

Requirement: If this regulation is repealed, then this regulation shall no longer apply as of the effective date of the repeal.

(1) Section 200.A (Mercaptans) and section 200.B (Hydrogen Sulfide) apply to mercaptan and H₂S emissions from the refinery. Section 200.C applies to FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404, and requires an alarm in good working order to signal non-combustion of the gas.

(2) Section 201.A (CO), applies to the refinery's FCC regenerator stack. The owner or operator of an existing petroleum processing facility shall not permit, cause, suffer or allow carbon monoxide emissions to the atmosphere from a catalyst cracking recirculation or regeneration unit in excess of 20,000 ppm by volume in the undiluted effluent gas stream or streams.

(3) Section 202.C(1) (PM), The owner or operator of a new petroleum processing facility shall not permit, cause, suffer or allow particulate matter emissions to the atmosphere from the catalytic cracking regenerator vessel in excess of 1.0 Kg/1000 Kg (1.0 lb/1000 lb) of coke burnoff or visible emissions of thirty percent (30%) opacity or greater except for one six-minute average opacity reading in any one-hour period.

(4) Section 203 (Ammonia, undiluted emissions $\leq$ 25 ppmv) applies to all emission points of the refinery. The owner or operator of a petroleum processing facility shall not permit, cause, suffer or allow ammonia emissions to the atmosphere in excess of 25 ppm by volume in the undiluted

effluent gas stream or streams.

(5) Section 204 (Hydrocarbon Separation Facility) applies to all oil/water separators at the refinery. Compliance with this condition is met by complying with the applicable NSPS Subpart QQQ requirements.

(6) Section 205 (Facilities - Storage - Handling - Pumping - Blowdown System) applies to certain of the following: storage tanks for organic compounds, loading and unloading of organic compounds, seals on pumps and compressors, and disposal (flaring) of hydrocarbon gases. The permittee shall not permit, cause, suffer or allow the operation of a blowdown system without disposing of the gases in a manner which will minimize hydrocarbon emission to the atmosphere. If combustion is the means of disposal, it shall be by: smokeless flare; or any other method that is equally effective to achieve complete combustion. (20.2.37.205.E NMAC)

Monitoring:

(1) For Units FL-0400, FL-0401, FL-0402, FL-0403, and FL-0404: The permittee shall install and maintain a flare pilot flame monitoring system. (20.2.37.200.A.2 NMAC)

(2) A CO CMS has been installed to monitor the emissions from the FCC.

(3) The annual Stack test on Unit FCC (lb/hr PM emissions) and the calculated Coke burn rate will be used for the annual determination of pounds of PM per 1000 pounds of Coke burned.

(4) None

(5) No additional monitoring since compliance is met by complying with the applicable NSPS Subpart QQQ requirements. See other conditions of this permit for applicable NSPS or MACT requirements.

(6) Compliance is demonstrated through NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns.

Recordkeeping:

(1) Pilot flame monitoring records

(2) CO CMS measurements

(3) Copy of annual coke burn rate determination and stack test report

(4) None

(5) Applicable NSPS Subpart QQQ requirements

(6) Applicable NSPS K, NSPS Ka, NSPS Kb, or MACT CC for Tanks; through MACT CC for Loading Racks; through NSPS GGG, NSPS GGGa or MACT CC for Pumps and Compressors; and through NSPS Subpart A for Blowdowns requirements

Reporting: The permittee shall report in accordance with applicable NSPS or MACT requirements and Section B110.

B. 20.2.61 NMAC Opacity Limit (Combustion Units)

Requirement: Visible emissions from all stationary combustion emission stacks shall not equal or exceed an opacity of 20 percent in accordance with the requirements at 20.2.61.109 NMAC. This regulation does not apply as long as 20.3.37 NMAC is still in effect per 20.2.61.109 NMAC. **If 20.2.37 NMAC is repealed, 20.2.61 NMAC will apply to these units within 120 days of the effective date of the 20.2.37 NMAC repeal.**

Monitoring: Use of natural gas fuel constitutes compliance with 20.2.61 NMAC unless opacity equals or exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during operation other than during startup mode, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Reference Method 9 (EPA Method 9) as required by 20.2.61.114 NMAC, or the operator will be allowed to shut down the equipment to perform maintenance/repair to eliminate the visible emissions. Following completion of equipment maintenance/repair, the operator shall conduct visible emission observations following startup in accordance with the following procedures:

- Visible emissions observations shall be conducted over a 10-minute period during operation after completion of startup mode in accordance with the procedures at 40 CFR 60, Appendix A, Reference Method 22 (EPA Method 22). If no visible emissions are observed, no further action is required.
- If any visible emissions are observed during completion of the EPA Method 22 observation, subsequent opacity observations shall be conducted over a 10-minute period, in accordance with the procedures at EPA Method 9 as required by 20.2.61.114 NMAC.

For the purposes of this condition, *Startup mode* is defined as the startup period that is described in the facility's startup plan.

Recordkeeping: If no visible emissions were observed, none.

If any visible emissions observations were conducted, the permittee shall keep records in accordance with the requirements of Section B109 and as follows:

- For any visible emissions observations conducted in accordance with EPA Method 22, record the information on the form referenced in EPA Method 22, Section 11.2.

For any opacity observations conducted in accordance with the requirements of EPA Method 9, record the information on the form referenced in EPA Method 9, Sections 2.2 and 2.4.

Reporting: The permittee shall report in accordance with Section B110.

A113 Facility: 20.2.38 NMAC

A. 20.2.38 NMAC

Requirement: 20.2.38 NMAC (Hydrocarbon Storage Facilities, 11/30/95) applies to the refinery as follows:

1. Section 109 (Tank Storage Associated with Petroleum Production or Processing Facility [Sour Hydrocarbon Liquids]) applies to the loading of hydrocarbons containing H₂S.
2. Section 110 (Tank Battery or Storage Facility - Within Municipality [Sour Hydrocarbon Liquids]) applies to certain tanks storing sour hydrocarbon liquids whose vapors contain ≥ 24 ppm

H ₂ S.
3. Section 113 (New Tank Battery and the Pecos-Permian Interstate Air Quality Control Region [Sour Hydrocarbon Liquids]) applies to certain tanks storing sour hydrocarbon liquids whose vapors contain ≥ 24 ppm H ₂ S.
Monitoring: 1. None 2. and 3. Demonstrated through NSPS K, Ka, Kb, and MACT CC floating roof seal inspection.
Recordkeeping: 1. Records of Tank design showing inlet piping connections. 2. and 3. No additional requirements other than applicable requirements of NSPS and MACT.
Reporting: The permittee shall report in accordance with Section B110.

A114 Facility: Relocation Requirements – Not Required**A115 Alternative Operating Scenario – Not Required****A116 Compliance Plan – Not Required****A117 Reducing Facility Emissions**

- A. Upon the issuance of this permit, the following Units removed from this permit shall not be authorized to operate whether installed or never constructed: T-0013, T-0058, T-0404, T-0405, T-0409, T-0810, and T-0078.

A118 Facility: MACT Subpart UUU

- A. 40 CFR 63, Subpart UUU FCC, FUG-70-CCR, SRUs 1, 2, and 3

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart UUU, National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units, for all affected sources shown in Tables 103H&I attached. (63.1560 and 63.1570).

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart UUU.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart UUU.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart UUU.

A119 40 CFR 61 Subpart FF, National Emission Standard for Benzene Waste Operations

- A. 40 CFR 61 Subpart FF, National Emission Standard for Benzene Waste Operations (Units subject in Table 103.C & G)

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 61, Subpart FF, National Emission Standard for Benzene Waste Operations for the affected sources in Tables 103.C, G.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 61, Subpart FF.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 61.356.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 61.357.

EQUIPMENT SPECIFIC REQUIREMENTS**OIL AND GAS INDUSTRY****A200 Oil and Gas Industry**

- A. This section has common equipment related to most Oil and Gas Operations.

A201 Engines

- A. Maintenance and Repair Monitoring (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901; Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901)

Requirement: These units are subject to Title V since they are subject to NSPS and/or MACT requirements. No emission limits were established since their emissions are small. The permittee shall ensure these units are properly maintained and repaired.

Monitoring: Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events:

- (1) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period.
- (2) Unscheduled repairs that require a unit to be taken out of service for more than two hours in any twenty-four hour period.

Recordkeeping: The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.

Reporting: The permittee shall report in accordance with Section B110.

- B. 40 CFR 63, Subpart ZZZZ (Units G-0100, G-0101, V-0543, V-0545, V-0546, E-8010, E-0600W, E-0601M, E-0602E, E-0603, and E-0901) (Units subject in Table 103.J)

Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 63, Subpart ZZZZ and the permittee shall comply with all applicable requirements of Subpart A and Subpart ZZZZ.

Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 63, Subpart A and Subpart ZZZZ.

Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart ZZZZ, including but not limited to 63.6655 and 63.10.

Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart A and ZZZZ, including but not limited to 63.6645, 63.6650, 63.9, and 63.10.

- C. 40 CFR 60, Subpart IIII (Diesel Engines subject in Table 103.J)

Requirement: The units listed as subject in Table 103.J are subject to 40 CFR 60, Subparts A and IIII and shall comply with the notification requirements in Subpart A and the specific requirements of Subpart IIII.

Monitoring: The permittee shall comply with all applicable monitoring requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4211.

Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.

Reporting: The permittee shall comply with all applicable reporting requirements in 40 CFR 60, Subpart A and Subpart IIII, including but not limited to 60.4214.

A202 Glycol Dehydrators – Not Required

A203 Tanks

- A. NSPS Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 (Tanks subject in Table 103.C)

Requirement: The permittee shall comply with all applicable requirements of NSPS Subparts A & K for the affected sources in Table 103.C.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart K.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart K.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart K.

- B. NSPS Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 (Tanks subject in Table 103.C)

Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart Ka for the affected sources in Table 103.C.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ka.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ka.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ka.

- C. NSPS Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After January 23, 1984" (Tanks subject in Table 103.C)

Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart Kb for the affected sources in Table 103.C.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Kb.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Kb.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Kb.

- D. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" (Tanks subject in Table 103.C)

Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Tables 103B, C, D, G attached. (63.640).

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.

E. Tank Throughput, Temperature, and VOC and H₂S Limits (Units shown in Tables 106.B & C)

Requirement: Compliance with the allowable throughput limits and emission limits in Table 106.D & E shall be demonstrated by not exceeding the monthly rolling 12-month total throughput to the unit(s) of gallons per year (barrels/year) shown in Table 106.D and not exceeding the allowable vapor pressure listed in Tables 106.B & C.

Monitoring: The permittee shall monitor the monthly total throughput, maximum temperature once per month and the vapor pressure of each tank.

Recordkeeping: The permittee shall record the monthly total throughput of liquids and the vapor pressure of each tank. Each month, during the first 12-months of monitoring, the permittee shall record the cumulative total liquid throughput and vapor pressure and after the first 12-months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total liquid throughput and the vapor pressure of each tank.

The permittee has calculated the VOCs and H₂S annually based on the 12-month total.

Tank breathing and working emissions were calculated using the USEPA AP-42 Section 7.1 calculation methods. Emission rates computed using the same parameters, but with a different Department approved algorithm that exceed these values will not be deemed non-compliance with this permit.

Records shall also be maintained in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

A204 Heaters/Boilers

A. Operational Inspection (All heaters/boilers in Tables 103.E & 104.A)

Requirement: Compliance with the allowable emission limits in Table 106.A shall be demonstrated by performing periodic inspections to ensure proper operations.

Monitoring: The permittee shall conduct annual operational inspections to determine that the heater(s)/boiler(s) are operating properly. The operational inspections shall include operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the heater/boiler manufacturer, and indications based on operational experience with the/these unit(s).

Recordkeeping: The permittee shall maintain records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the heater(s)/boiler(s) into compliance. The permittee shall maintain records in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

Within ninety (90) days of permit issuance, the permittee shall submit for Department approval

a procedure which the permittee will use to carry out the operational inspections. The permittee may at any time submit revisions for Department approval.

B. Periodic Emissions Tests (Units Heaters H-0019, H-0020, H-0362, H-0363, H-0364, H-2421, H-3402, H-3403, and H-5401)

Requirement: Compliance with allowable emission limits in Table 106.A shall be demonstrated by performing periodic emissions tests.

Monitoring: The permittee shall conduct annual periodic portable analyzer emission tests or EPA Reference Method Tests for NO_x and CO.

Test results that demonstrate compliance with the CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits.

Section B108 General Monitoring Requirements apply to this condition.

The permittee shall meet the testing requirements in Section B111.

Recordkeeping: Records of periodic emission tests shall include the flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure NO_x, CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results.

Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.

Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for NO_x and CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.

C. Summary of Compliance Methods for Heaters and Boilers for Table 106.A, 20.2.33 NMAC, 20.2.37 NMAC (Boilers and Heaters in Tables 103.E and 104.A)

Requirement:

(1) Demonstrate compliance with Table 106.A Allowable Emissions.

(2) 20.2.33 NMAC (Gas Burning Equipment – Nitrogen Dioxide, 10/31/02) applies to existing and new gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year. It applies to process heaters identified in Tables 103.E and 104.A. These units shall be equipped with burners emitting less than 0.2 lb NO_x per MM Btu. Compliance with 20.2.33 NMAC is demonstrated by compliance with the NO_x lb per MM Btu limits in Table A106.A.

(3) Compliance with the particulate emission limitation set forth in 20.2.37.202.A NMAC. If 20.2.37 NMAC is repealed by the NM Environmental Improvement Board, then this requirement is not effective after the repeal dated.

Monitoring:

(1) The permittee shall monitor the fuel usage of the all boilers and heaters. The fuel usage shall be monitored for specific heaters and boilers subject to 20.2.33 NMAC.

(2) For specific heaters and boilers subject to 20.2.33 NMAC, the permittee shall collect and analyze samples of the refinery fuel gas at least once per week. The refinery fuel gas analysis shall include the composition of the refinery fuel gas, the gross heating value, and the net heating value.

(3) See Condition A110.A for H₂S monitoring requirements.

(4) All process heaters and boilers shall fire only refinery gas in accordance with Application, Section 2, Table 2-J.

(5) For those combustion sources required to have a continuous monitoring system (CMS) (listed in (a) below), the permittee shall install, certify, calibrate, maintain, and operate the CMS for each required pollutant in accordance with the applicable requirements of 40 CFR 60 or 63. The hourly average CMS data, the refinery fuel gas usage data, and the refinery fuel gas composition data shall be used to estimate the actual emission rates.

The following CMS shall be recertified annually:

- Boiler B-0007 NO_x and O₂ CMS
- Boiler B-0008 NO_x and O₂ CMS
- Boiler B-0009 NO_x and O₂ and CO₂ CMS
- H-9851 NO_x O₂ CMS
- H-2501 NO_x O₂ CMS

(6) For those combustion sources required to conduct periodic stack exhaust testing as stated in Condition A204.B, the test reports shall be used to demonstrate compliance with the NO_x, CO, and VOC limits in Table 106.A.

(7) For those units and pollutants that are not required to have a CMS or a periodic stack test, (Units H-009, H-0011, H-0018, H-0028, H-0030, H-0040, H-0303, H-0312, H-0352, H-0353, H-0354, H-0355, H-0421, H-0464, H-0473, H-0600, H-0601, H-8801, H-8802, and H-3101) the permit application emission factor, the fuel usage, and the refinery fuel gas analysis shall be used to calculate the emission rates of NO_x, CO, VOC, and PM.

(8) If 20.2.37 NMAC is repealed by the NM Environmental Improvement Board, then this requirement is not effective after the repeal dated. Compliance with the particulate emission limitation set forth in 20.2.37.202.A NMAC shall be determined as specified in 20.2.37.202.D(3) NMAC. Combustion of only gaseous fuel has been approved by the Department as the compliance method under 20.2.37.202.D(3) NMAC.

Recordkeeping: The permittee shall maintain the following records:

(1) By March 31, the annual fuel usage for all boilers and heaters for the previous calendar year.

(2) By March 31, the average fuel composition and heating value for all boilers and heaters for the previous calendar year.

- (3) For those units required to have a CMS (B-0007, B-0008, B-0009, H-9851 and H-2501), the CMS hourly average data.
- (4) For those units required to conduct periodic stack exhaust testing, the periodic test report.
- (5) For all boilers and heaters, a summary spreadsheet shall be maintained comparing the actual annual emissions with the allowable emission limits expressed in tons per year and lb/MMBtu using the appropriate method of compliance demonstration. This spreadsheet shall be updated by March 31 of each year for the previous calendar year.

Reporting: The permittee shall report in accordance with Sections B110.

D. Consent Decree NOx Emission Limits for Boilers B-0007 and B-0008

Requirement:

- (1) In accordance with the Consent Decree lodged December 20, 2001, NOx emissions from boilers B-0007 (no later than December 31, 2002) and B-0008 (no later than December 31, 2003) shall be less than 0.06 lb/MMBtu during any hourly rolling 3-hour period.

Demonstration of compliance with the NOx limit for B-0007 and B-0008 shall be established by averaging the CMS Data over any 3-hour period and comparing the average concentration to the parametric limit of ≤ 42.1 ppm NOx, corrected to 6.1% O₂ as determined by the CMS. (CD¶16.D)

This also satisfies the requirement in 20.2.33.108.A NMAC that NOx emissions shall not exceed 0.2 lb/MMBTU.

- (2) Navajo is authorized to operate all three boilers (B-0007 and B-0008) simultaneously as needed.

Monitoring: For the Controlled Boilers (B-0007, B-0008) as listed in the Consent Decree, continuous compliance with their respective NOx permit emissions limits shall be demonstrated by monitoring as follows: (CD¶16.C)

- (1) For boilers (B-0007 and B-0008) with a heat input capacity greater than 150 MMBTU/hr of HHV, the permittee shall install or continue to operate CMS to measure NOx and O₂. Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specification test of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable; (CD¶16.C.i)

Recordkeeping: The permittee shall keep records of the CMS recertification's monitored in Condition A204.B, Summary of Compliance.

Reporting: The permittee shall report in accordance with Section B110.

E. NOx Monitoring and Testing for Controlled Heaters Subject to the Consent Decree (Units H-0020, H-0352, H-0353, H-0354, H-0600, and H-0601)

Requirement: For the Controlled Heaters as listed in the Consent Decree, continuous compliance with all NO_x emissions limits shall be demonstrated by monitoring as follows. (CD¶16.C)

Monitoring:

(1) For heaters with a heat input capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV), Navajo shall

(a) install or continue to operate CMS to measure NO_x and O₂ by no later than the date of the installation of the applicable NO_x Control Technology on the heater or boiler; or

(b) submit for EPA approval, by no later than 60 days after the date of installation of the applicable NO_x Control Technology on the heater or boiler, a proposal for monitoring based on operating parameters, including but not limited to, firebox temperature, air preheat temperature, heat input rate, and combustion O₂.

Navajo shall evaluate the necessity of using firebox or bridgewall temperatures and additional operating parameters and agrees to use such parameters as a means of monitoring performance where Navajo and EPA mutually-agree to their effectiveness. (CD¶16.C.ii).

As of January 23, 2014 (notarized date of application), there are no heaters or boilers at the Artesia Refinery with a capacity of equal to or less than 150 MMBTU/hr (HHV) but greater than 100 MMBTU/hr (HHV) subject to Monitoring requirement (1).

(2) For heaters with a heat input capacity of equal to or less than 100 MMBTU/hr of HHV, the permittee shall conduct an initial performance tests for NO_x. The results of these tests shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. (CD¶16.C.iii). This condition applies to the following heaters:

- Heaters H-0352, H-0353, and H-0354
- Heater H-0020
- Heaters H-0600 and H-0601

The permittee has completed all of the initial performance tests.

(3) For heater H-0601 compliance shall be demonstrated by continuously monitoring stack oxygen (O₂) to maintain a 3-hour average below 6.0 vol%. As a further check of compliance, Navajo shall monitor stack NO_x at least twice a month using a portable analyzer to assure that the measured NO_x value does not exceed the compliance threshold of 38 ppmv NO_x. (CD¶16.C.iii)

Recordkeeping:

(1) The permittee shall keep records of the Fuel firing rates and Sulfur limits monitored for Condition A110.A.

(2) The permittee shall keep records of the initial performance tests.

(3) The permittee shall keep records of the stack oxygen monitoring and the portable analyzer tests.

Reporting: The permittee shall report in accordance with Section B110. Condition B.111.D(7) does not apply to portable analyzer tests.

- F. NO_x Monitoring and Testing for Heaters and Boilers permitted after the Consent Decree (Units Heaters H-0019, H-0362, H-0363, H-0364, H-2421, H-3402, H-2501, H-8801/8802, H-9851, and B-0009)

Requirement: For the Heaters permitted after the Consent Decree, continuous compliance with their respective NO_x permit emissions limits in Table 106.A shall be demonstrated by monitoring as follows.

Monitoring:

(1) For heaters with a heat input capacity greater than 150 MM Btu/hr (LHV Basis), the permittee shall install and operate CMS to measure NO_x and O₂ by the startup date of each heater or boiler. Each CMS shall be installed, certified, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.11, 60.13, and Part 60 Appendix A and the applicable performance specifications of 40 CFR Part 60 Appendices B and F. These CMS shall be used to demonstrate compliance with emission limits. The permittee shall make CMS and process data available to the applicable Federal and State Agencies upon demand as soon as practicable. Condition A204.E(1) currently includes heater H-9851 and boiler B-0009.

(2) For heaters with a heat input capacity of equal to or less than 150 MM Btu/hr (LHV) but greater than 100 MM Btu/hr (LHV), Navajo shall:

- (a) install and operate CMS to measure NO_x and O₂ by the startup date of each heater; or
- (b) submit to the Permit Program Manager for NMED approval, by no later than 90 days after the startup date of each heater, a proposal for monitoring based on operating parameters. Operating parameters to consider include, but are not limited to, firebox temperature, air pre-heat temperature, heat input rate, and combustion O₂. Navajo agrees to use such parameters as a means of monitoring performance.

Condition A204.F(2) applies to heaters H-2501 and H-8801/8802

(3) For heaters with a heat input capacity of equal to or less than 100 MM Btu/hr (LHV basis), the permittee shall conduct an initial performance test by no later than 180 days after the startup date. The results of this test shall be reported based upon an average of three (3) one-hour testing periods and shall be used to develop representative operating parameters for each unit, which will be used as indicators of compliance. This condition applies to the following heaters:

- Heaters H-0362, H-0363, H-0364, and H-2421
- Heater H-0019
- Heaters H-3402 (AMP approved by EPA, see (4)) , initial performance test completed on July 10, 2013
- Heater H-3403, initial performance test completed on April 30, 2013

(4) US EPA has approved an Alternative Monitoring Plan (AMP) for Unit H-3402 for utilizing the oxygen monitor on the H-3402 Unit 34 Hydrocracker Reboiler 1 as a parametric means for

demonstrating compliance with NSPS Ja, NO_x monitoring via a CMS. In accordance with the AMP, the permittee shall accomplish the following:

- (a) Install flow indication on the fuel line to provide historical data of the fuel to the Mild Hydrocracker (Unit 34) by January 1st, 2015.
- (b) Monitor the process historical data of the HEP purchased natural gas pressure, and the high pressure fuel balance drum (D-0770).
- (c) Upgrade the existing the Mild Hydrocracker (Unit 34) Reboiler Heater (H-3402) oxygen monitor to perform daily calibrations as required in 40 CFR60.13(d)(1). (Note that the sample placement does not conform to CMS requirements for process reasons).
- (d) Conduct biennial performance tests according to the requirements in 40CFR 60.104a(i).
- (e) Establish a maximum or curve excess O₂ operating limit – (MOPV) as required under 40 CFR60.107a(c)(6) utilizing the existing monitor.
- (f) Include Reboiler Heater (H-3402) hours of refinery fuel gas usage and any deviations during such time as required by 40 CFR 60.7 for periodic reporting.

Recordkeeping:

- (1) The permittee shall keep records of the fuel firing rates and sulfur limits monitored for Condition A110.A.
- (2) The permittee shall keep records of the CMS recertification's monitored in Condition A204.B, Summary of Compliance.
- (3) The permittee shall keep records of the performance tests.
- (4) The permittee shall keep records of the implementation of the AMP and all required monitoring specified in the AMP.

Reporting: The permittee shall report in accordance with Section B110.

G. NSPS Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (Boilers and heater subject in Table 103.E)

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Db (NO_x-60.44b, SO₂-60.42b, & PM-60.43b) for the affected sources in Table 103.E.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.48b, Subpart Db.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.49b, Subpart Db.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.49b, Subpart Db.

Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.45b and 60.46b.

H. NSPS Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (Boilers and heater subject in Table 103.E)

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Dc (NO_x-60.44c, SO₂-60.42c, & PM-60.43c) for the affected sources in Table 103.E.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60.47c, Subpart Dc.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.48c, Subpart Dc.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.48c, Subpart Dc.

Compliance Test: The permittee shall comply with the methods and procedures stipulated in 40 CFR 60, Section 60.44c and 60.45c.

I. NSPS Subpart J, Standards of Performance for Petroleum Refineries (Boilers and heater subject in Table 103.E)

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & J for the affected sources in Table 103.E.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart J.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart J.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart J.

J. NSPS Subpart Ja, Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007 (Boilers and heater subject in Table 103.E)

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 60, Subparts A & Ja for the affected sources in Table 103.E.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ja.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ja.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ja.

K. BACT NO_x Limit, Continuous Monitoring System (CMS) (Unit B-0009)

Requirement: The permittee shall comply with the allowable emission limits in Table 106.A and Condition A106.E that represent NO_x BACT limits for the BACT requirements.

Monitoring:

- (1) The Permittee shall comply with the CMS monitoring as detailed in Condition A204.D.
- (2) The permittee shall conduct an EPA Method test within six (6) months of startup using EPA reference test methods in 40 CFR 60 for NO_x and O₂ and CO₂. Data from the CMS RATA testing may be used to satisfy this testing requirement.

Recordkeeping:

- (1) The permittee shall keep records of the CMS initial calibration and recertification monitored in Condition A204.B, Summary of Compliance.
- (2) Records of EPA Methods tests shall be maintained for the Boiler.

Reporting:

- (1) The permittee shall report in accordance with Section B110, to include the CMS initial calibration and recertification.
- (2) The permittee shall summarize in tabular form the results of the EPA Methods tests for NO_x and O₂ and CO₂, specifying the emissions rates in pounds per hour and lb/MMBtu. The table shall include the average concentration of all relevant pollutant species.

- L. MACT Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters (Boilers and heater subject in Table 103.E)

Requirement: The units are subject to 40 CFR 63, Subpart DDDDD and the permittee shall comply with the applicable requirements of 40 CFR 63, Subpart A and Subpart DDDDD.

Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart A and Subpart DDDDD.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart A and Subpart DDDDD.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart A and Subpart DDDDD.

- M. EPA Methods Test (Unit B-0009)

Requirement: Compliance with CO BACT Limit and allowable emission limits in Table 106.A shall be demonstrated by emissions tests ensuring the unit is operating correctly and within desired parameters.

Monitoring: The permittee shall conduct an EPA Method test no later than 180 days after startup using EPA reference test methods in 40 CFR 60.

Emission testing is required for CO. Test results that demonstrate compliance with the CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits.

Recordkeeping: Records of EPA Methods tests shall be maintained for the Boiler.

Reporting: The permittee shall report in accordance with the requirements of Section B111.D and summarize in tabular form the results of the EPA Methods test for CO, specifying the emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species.

N. Verification of Energy Efficiency BACT Control Requirements (Unit B-0009)

Requirement: The permittee shall comply with the allowable emission limits and the following BACT requirements.

1. Operation and Maintenance (BACT #6):
 - a. Periodic Boiler Tuning – The boiler shall be tuned annually to maintain optimal thermal efficiency.
 - b. Periodic Boiler Inspection and Repair for air leakage – The boiler shall be inspected annually to maintain optimal thermal efficiency.
 - c. Periodic Boiler Inspection and Cleaning for tube fouling – The boiler shall be inspected annually and necessary cleaning performed to prevent tube fouling.
2. Next Generation Ultra-low-NO_x high efficiency burners (NGULNB) (#5) shall be installed in the boiler design.
3. Flue gas economizer (BACT #2) – A heat exchanger shall be installed to recover heat from the exhaust gas to preheat incoming boiler feedwater to attain industry standard performance (IMO) for thermal efficiency.
4. Boiler insulation (BACT #4) – The boiler shall be designed and installed with boiler insulation to an optimum insulation thickness and material to achieve maximum energy efficiency. The OMP shall include the insulation design and maintenance schedule.
5. Oxygen Trim Control (BACT #7) – An Oxygen Trim Control system shall be designed and installed on the boiler to monitor oxygen concentration in the flue gas, and the inlet air flow is adjusted to maximize thermal efficiency.
6. Boiler blowdown minimization using manual analysis (BACT #3) – The Operation and Maintenance Plan (OMP) shall include methods and procedures to minimize blowdowns from the boiler to keep emissions at a minimum.
7. Condensate recovery (BACT #8): Condensate shall be recovered as represented in the application to achieve maximum energy efficiency. Condensate recovery shall be maximized through annual steam trap inspections and repairs.

Monitoring: The Permittee shall develop an Operation and Maintenance Plan (OMP) to include at least the requirements listed above within 12-months of commencement of operations. The Permittee shall review the OMP annually to ensure it's effectiveness in meeting the requirements above and recommend changes.

Recordkeeping:

- (1) Records demonstrating compliance with the energy efficiency requirement shall be recorded

and summarized in the OMP.

(2) The Permittee shall maintain a copy of the OMP onsite and available for inspection.

Reporting:

(1) The permittee shall notify the Department when the OMP has been prepared and available for review.

(2) The permittee shall report in the semi-annual report a summary of actions covered in accordance with the OMP, and in accordance with Section B110.

O. Periodic Emissions Tests (Unit B-009, CO BACT Limit)

Requirement: Compliance with the CO BACT Limit and allowable emission limits in Table 106.A shall be demonstrated by performing periodic emissions tests.

Monitoring: The permittee shall conduct periodic portable analyzer emission tests or EPA Reference Method Tests for CO at the intervals in the following schedule:

First Test --- in accordance with the schedule in Section B111.A(2).

Second Test --six (6) months after the first test is completed.

All subsequent testing shall be done annually.

Section B108 General Monitoring Requirements apply to this condition.

The permittee shall meet the testing requirements in Section B111.

Recordkeeping: Records of periodic emission tests shall include the boiler fuel flow rate and the stack gas exhaust temperature. If a combustion analyzer is used to measure CO, and/or excess air in the flue gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results.

Records shall be kept of all raw data used to determine flue gas flow and of all calculations used to determine flow rates and emission rates. The permittee shall maintain records in accordance with Section B109, B110, and B111.

Reporting: The permittee shall summarize in tabular form the results of the initial or subsequent periodic emissions tests for CO, specifying the mass emissions rates in pounds per hour. The table shall include the average concentration of all relevant pollutant species. The permittee shall report in accordance with Section B109, B110, and B111.

A205 Turbines not required

A206 Flares

A. FL-0400, FL-0403

Requirement:

(1) An alarm system in good working order shall be connected to Flare FL-0403 which will signal non-combustion of the gas.

(2) The acid gas flow meter for flare FL-0400 or FL-0403 shall be operated and calibrated at a frequency and by the procedure specified by the manufacturer. A chart recorder or data logger (electronic storage) shall continuously record the amount of gas measured by the flow meter.

Monitoring:

(1) The fuel gas required to provide supplemental heat to either Flare FL-0400 or FL-0403 as required under A105.B shall be monitored during flaring by a flow meter.

(2) The flow meter shall be operated continuously 24 hours per day, 365 days per year except for periods of flow meter maintenance or repair.

(3) The flow meter and flow totalizer shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings. If used, the inline monitor shall be operated, calibrated, and maintained as specified by the manufacturer and as necessary to ensure correct and accurate readings. The upper range of the flow meter shall be sufficient to record the highest expected flow rate of fuel gas sent to flare.

(4) The reading of this flow meter and the flow meter to measure acid gas flow as required under Condition A105.B shall be used to determine compliance with emission limits at A106.C.

Recordkeeping:

(1) Records of all periods of operation during which the flare pilot flame is absent as included in the MACT subpart CC semi-annual reports.

(2) Records of the quantity of supplemental fuel used during each acid gas flaring incident to provide supplemental heat to flare FL-0400 or flare FL-0403.

(3) The permittee shall maintain records from the flow meter of the amount of gas sent to the flare.

Reporting: The permittee shall report in accordance with Section B110.

B. NSPS Subpart Ja (Flares listed in Table 103.K)

Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart Ja.

Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart Ja.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60, Subpart Ja.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart Ja.

A207 Sulfur Recovery Plant (SRP), Tail Gas Incinerator (TGI)

A. Consent Decree Requirements for SRP and TGI

Requirement: In addition to the applicable requirements of NSPS, 40 CFR 60, Subparts J and Ja, the permittee shall accomplish the following:

1. Navajo shall route all Sulfur Recovery Plant (SRP) sulfur pit emissions from the SRP so that sulfur pit emissions to the atmosphere either are eliminated or are included and monitored as part of the applicable Sulfur Recovery Plant's tail gas emissions that meet the NSPS Subpart J or Ja limit for SO₂. (CD ¶18.C.ii)

2. The SRP and TGI (and any supplemental control devices) shall be operated and maintained, to the extent practicable, in accordance with the obligation to minimize SRP emissions through implementation of good air pollution control practices required by 40 CFR § 60.11(d), at all times, including periods of start-up, shutdown, and malfunction. (CD ¶18.C.iii)

Monitoring: The permittee shall comply with the applicable monitoring requirements of NSPS Subpart J or Ja.

Recordkeeping: The permittee shall maintain records in accordance with the applicable requirements of NSPS Subparts J and Ja.

Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J and Ja.

B. The following BACT SO₂ work practices and equipment shall apply to the SRP (SRU3/TGTU3/TGI3):

- (1) Maintain at least 98% SRP on-stream operations. This includes curtailing refinery operations as necessary when SRU capacity is limited during planned startup, shutdown, and maintenance events.
- (2) Maintain adequate SRP excess capacity to reduce the frequency and quantity of refinery excess SO₂ emissions. After the refinery expansion project proposed units are constructed, the proposed SRU3 will provide at least 25% excess capacity.
- (3) Continue to maintain and use a sulfur shedding plan to prevent or reduce acid gas flaring events from refinery upsets. An acid gas flaring event is defined as excess SO₂ emissions greater than 500 pounds in a 24-hour period. The plan shall state specific actions that may be taken to reduce or prevent acid gas flaring. The actions taken during any event will be based on the refinery operators' discretion, considering safety and other factors related to prudent operation. This plan is subject to review by NMED or EPA, and shall be amended upon written request by NMED or EPA. The sulfur shedding plan may include, but is not limited to the following options:
 - (a) Store sour water to reduce acid gas generation from the sour water strippers
 - (b) Reduce the operating rate of one or more amine strippers to lower the acid gas generation rate
 - (c) Reduce one or more hydrotreating unit throughput rates to lower acid gas generation rate
- (4) Use hydrogen, when available, as SRU fuel during startup and hot standby to minimize carbon deposits on the SRU catalysts.

- (5) During startup and shutdown and to the extent practicable, process vessels shall be depressurized into other process equipment rather than venting to a flare. The permittee shall document instances when this is not practicable.

C. SRU1, SRU2, and SRU3

Requirement:

The permittee shall demonstrate compliance with the H₂S, SO₂, lb/hr, tpy emission limits by completing the following requirements, monitoring, recordkeeping and reporting:

(1) A flow meter shall be installed, operated, calibrated, and maintained on the sour water stripper streams that go to the SRUs.

(2) An SO₂ CEMS and flow meter shall be installed on the SRU1/SRU2 and SRU3 incinerator stacks. In addition, these units shall be equipped with instruments to measure and record sulfur concentration and flow rates of the gas streams into SRU1, SRU2, and SRU3.

The CEMS, flow meters, and data loggers shall be calibrated and maintained. In addition, the calibration of the SO₂ CEMS shall follow the quality assurance and quality control procedures in 40 CFR 60 Subpart J or Ja and Appendix F.

(3) The minimum acceptable level of data capture for all instruments measuring flow of sulfur streams into the SRU1, SRU2, and SRU3, as well as the CEMS and flow meters on the incinerator stacks, shall be at least 90% for each semi-annual period. The 10% lost data will include all periods when the concentration and corresponding flow are not being measured as a result of calibrations or breakdowns.

Monitoring: The gas stream feeding SRU1, SRU2, and SRU3 from the amine regeneration units and the sour water stripper shall be tested at least monthly for H₂S concentration.

The permittee shall monitor the following:

- (1) Flow rate of sour water stream to SRUs,
- (2) SO₂ concentration in SRU incinerator stacks and
- (3) Flow rate of the SRU incinerator stacks.

Recordkeeping: The permittee shall maintain records in accordance with the applicable requirements of NSPS Subparts J or Ja and MACT Subpart UUU.

The permittee shall also keep records of the following:

- (1) Flow rate of sour water stream to SRUs,
- (2) SO₂ concentration in SRU incinerator stacks and
- (3) Flow rate of the SRU incinerator stacks.

Reporting: The permittee shall report in accordance with the applicable requirements of NSPS Subparts J or Ja, MACT Subpart UUU, and Section B110.

D. 40 CFR 60, Subpart J (Unit(s) SRU1 and SRU2)

Requirement: The permittee shall comply with the applicable requirements of 40 CFR 60, Subpart J.

Monitoring: The permittee shall install a continuous monitoring device to monitor compliance with the H₂S limit. (40 CFR 60.105(a)(3-4))

Recordkeeping: The permittee shall maintain the continuous emission records.
Reporting: The permittee shall comply with the reporting requirements of 40 CFR 60, Subpart J.

E. 40 CFR 60, Subpart Ja (Unit SRU3)

Requirement: The permittee shall comply with the applicable requirements of 40 CFR 60, Subpart Ja.
Monitoring: The permittee shall install a continuous monitoring device to monitor compliance with the H ₂ S limit. (40 CFR 60.105a(a)(3-4))
Recordkeeping: The permittee shall maintain the continuous emission records.
Reporting: The permittee shall comply with the reporting requirements of 40 CFR 60, Subpart Ja.

A208 Amine Unit – Not Required

A209 Fugitives

A. NSPS Subpart GGGa, Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (Fugitives subject in Table 103.B)

Requirement: The permittee shall comply with all applicable requirements of NSPS Subpart GGGa for all sources in Table 103.B (affected units and voluntarily units). This table also includes areas that are voluntarily following the NSPS Subpart GGGa monitoring requirements.
Monitoring: The permittee shall comply with all applicable monitoring requirements of 40 CFR 60, Subpart GGGa.
Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 60, Subpart GGGa.
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60, Subpart GGGa.

B. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (Fugitives subject in Table 103.B)

Requirement The permittee shall comply with all applicable requirements of NSPS, 40 CFR Part 60.690, Subpart QQQ. Per the Consent Decree CIV-01 1422LH Lodged 12/20/2001, Entered 3/5/2002, the permittee agreed that this regulation would apply to the entire facility not just those source applicable due to construction dates.
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695)
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.696.
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR

60.697.

- C. Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available Significant permit revision in accordance with 20.2.72 NMAC. The facility wide fugitive VOC emission limit shown above and in Table 106.A of this permit.

A210 Loading Racks

- A. Truck and Rail Loading (Unit shown in Table 106.G)

Requirement: Compliance with the allowable emission limits in Table <u>106.G</u> shall be demonstrated by not exceeding the monthly rolling 12-month total throughput for each loading rack for each different product in barrels/year.
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Monitoring: The permittee shall monitor the throughput volumes on a monthly basis.

Recordkeeping: The permittee shall record the monthly throughput volume for each loading rack for each different product. Each month during the first 12-months of monitoring the permittee shall record the cumulative condensate loadout volume and after the first 12-months of monitoring, the permittee shall calculate and record a monthly rolling 12-month total loadout volume.

Records shall also be maintained in accordance with Section B109.

Reporting: The permittee shall report in accordance with Section B110.

- B. Fuel Truck Loading Rack (Units subject in Table 103.D) (40 CFR 63, Subpart CC)

Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries. Specially, the truck loading rack shall be equipped with a carbon adsorption system for compliance with the MACT requirements.
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Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. Specifically 63.427(a)(2), where a carbon adsorption system is used, a continuous emission monitoring system (CEMS) capable of measuring organic compound concentration shall be installed in the exhaust air stream.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63, Subpart CC.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart CC.

A211 Fluid Catalytic Cracking Unit (FCC)

- A. Continuous Monitor System (CMS) (Unit FCC REGEN)

Requirement:

(1) <u>Consent Decree Limits on PM and SO₂ emissions from the FCC:</u> By no later than December

31, 2003, the Wet Gas Scrubber (WGS) on the FCC Regenerator shall comply with the following limits: (CD ¶12.B & ¶13.B)

- (a) SO₂ concentration not to exceed 25 ppmvd on a daily rolling 365-day average basis and 50 ppmvd on a daily rolling 7-day average basis, each corrected to 0% oxygen. Compliance with this emissions limit shall be demonstrated on an ongoing basis through the use of CMS; and
- (b) A particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis (CD ¶13.B). To demonstrate compliance with this requirement, the Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9, Opacity Test in accordance with their approved Alternative Monitoring Plan (AMP).
- (c) As the FCC Regenerator is subject to the provisions of 40 CFR 60.102 (NSPS Subpart J), it shall not discharge to the atmosphere gases exhibiting greater than 30 percent opacity, except for one six-minute average opacity reading in any one-hour period.

(2) Consent Decree Limits on NO_x and CO emissions from the FCC: The FCC shall comply with NO_x and CO emission limits as follows:

- (a) The concentration-based (ppmvd) NO_x emission limit based on daily rolling 7-day and daily rolling 365-day averages, corrected to 0% oxygen as established pursuant to the Consent Decree, unless EPA rejects the proposed limit and establishes a different NO_x emission limit, in which case the FCC shall comply with EPA's established limit. Under no circumstances shall this emission limit be greater than a concentration-based limit that would be equivalent to 34.9 lbs/hr. The 7-day FCC NO_x emission limits, shall not apply during periods of Hydrotreater Outage provided that the FCC (including associated air pollution control equipment) is maintained and operated in a manner that minimizes emissions in accordance with an EPA-approved good air pollution control practices plan. Navajo shall comply with the plan at all times, including periods of startup, shutdown, and malfunction of the hydrotreater. The daily rolling 365-day average NO_x emissions limit shall apply during periods of hydrotreater outages. The NO_x limits are:
 - (1) 87.3 ppmvd NO_x, corrected to 0% O₂ on a daily rolling 7-day average, and
 - (2) 58.1 ppmvd NO_x, corrected to 0% O₂ on a daily rolling 365-day average
- (b) The NSPS Subpart J emission limit of 500 ppmvd CO corrected to 0% O₂ on a 1-hour average basis and 100 ppmvd CO corrected to 0% O₂ on a daily rolling 365-day average basis, by no later than December 31, 2003.

Monitoring:

(1) A continuous monitor system (CMS) for CO, O₂, SO₂ and NO_x shall be installed, calibrated, maintained, and operated on the FCC Catalyst Regenerator vent stack(s) downstream of the scrubber in accordance with 40 CFR Part 60, §60.13, Appendix A, and the applicable performance specifications of Appendices B (Specifications 2 and 3) and F.

The CMS shall be used to demonstrate compliance with CO, SO₂ and NO_x emissions limits and to report compliance with the terms and conditions of the Consent Decree.

The CMS and process data shall be made available, by permittee, to applicable Federal and State

Agencies (NMED) upon demand as soon as practicable. (CD ¶11.F, 12 D, and 14.C)

(2) The FCC Regenerator Scrubber NO_x, SO₂, CO and O₂ CMS shall be recertified annually.

(3) The CMS data shall be monitored to ensure the CO, SO₂ and NO_x emission limits for the FCC are met.

(4) The Permittee shall conduct an annual EPA Method 5 Test for PM and weekly EPA Method 9 Opacity test to demonstrate compliance with the particulate matter (PM) emission limit of 1.0 pound of PM per 1000 pounds of coke burned on a 3-hour average basis and opacity limit of 30%.

Permittee shall meet testing requirements of B111.

Recordkeeping: The permittee shall maintain the records of:

- (1) The certification and re-certification of the CMS.
- (2) Modifications to the FCC's good air pollution control practice plan to minimize NO_x emissions shall be summarized on an annual basis if any changes were made. (CD ¶11.G)
- (3) The permittee shall keep records of CMS data monitoring NO₂, SO₂, PM₁₀ and CO emissions from the FCC. (CD ¶11.F, CD ¶12.D & CD ¶14.C)
- (4) Records of NO_x, CO, SO₂ ppmvd, lb/hr, tpy; PM lb/hr, tpy and opacity. TPY shall be based on a monthly rolling 12-month total.
- (5) The permittee shall keep records of annual PM stack tests and weekly Method 9 observations conducted on the FCC. For any opacity observations conducted in accordance with the requirements of EPA Method 9, record the information on the form referenced in EPA Method 9, Sections 2.2 and 2.4.

Reporting: The permittee shall report in accordance with Section B110 and testing requirements of B111.

B. Performance Testing (Unit FCC REGEN)

Requirements:

- (1) The permittee shall demonstrate compliance with the NSPS Subpart J particulate matter emission limit at Table 106.A by conducting an initial performance test in accordance with NSPS Subpart A, §60.8 and NSPS Subpart J, §60.106(b). The particulate matter stack test shall be repeated on an annual basis.
- (2) The permittee shall comply with all applicable performance testing requirements in accordance with MACT Subparts A and UUU.

Monitoring: Testing shall be conducted in accordance with NSPS Subparts A and J, and in accordance with MACT Subparts A and UUU.

Recordkeeping: The permittee shall maintain performance test records in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance with Section B109.

Reporting: The permittee shall report performance test results in accordance with NSPS Subparts A and J, MACT Subparts A and UUU, and in accordance with Section B110.

A212 Cooling Towers

- A. MACT Subpart CC, “National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries” (Cooling Towers subject in Table 103.F)

Requirement: The permittee shall comply with all applicable requirements of 40 CFR 63, Subpart CC for heat exchange systems for all affected sources shown in Table 103.F attached. (63.654(a), 63.640(h)(6))

Monitoring: The permittee shall comply with all applicable monitoring and testing requirements of 40 CFR 63, Subpart CC. (63.654(c), (d), (e), (f))

Recordkeeping: The permittee shall comply with all applicable recordkeeping requirements of 40 CFR 63, Subpart CC. (63.654(g), 63.655(i)(4), (i)(5))

Reporting: The permittee shall comply with all applicable reporting requirements of 40 CFR 63, Subpart CC. (63.655(f), (f)(1)(vi), (g)(9), (h)(1), (7))

- B. Cooling Tower Operations (Cooling Towers subject in Table 103.F)

Requirement: Compliance with the allowable emission limits in Table 106.H shall be demonstrated by meeting the following requirements:

- 1) operate a maximum of six (6) recirculating pumps at any one time;
- 2) ensure that each pump capacity shown in Table 104.A are not exceeded gallons per minute for each cooling tower (65,500 gpm total maximum rate for 6 pumps);
- 3) limit the Total Dissolved Solids (TDS) content for the cooling tower recirculating water system to 3500 ppmw, based on a monthly rolling 12-month annual average;
- 4) ensure that the drift eliminator are rated by the manufacturer at 0.001% or 0.003 drift or less as shown in Table 104.A; and
- 5) ensure that the drift eliminator is present and in good working order.

The permittee shall measure the Total Dissolved Solids (TDS) content of the recirculating water through direct laboratory analysis, or may use a conductivity meter on the recirculating water system for the cooling tower. The correlation between conductivity of the water and the TDS content shall be taken as $0.9 * \text{conductivity } (\mu\text{mhos/cm}) = \text{TDS (ppmw)}$ unless a new correlation is determined through laboratory analysis and submitted to the Permit Program Manager for approval.

Monitoring: The permittee shall:

- 1) Monitor the recirculating water TDS content by direct laboratory analysis of the TDS or through use of conductivity meter values and correlated TDS on a monthly basis; and
 - a. Any correlation other than the 0.9 value described above shall be developed by the permittee by independent laboratory measurement of at least 10 water samples with approximately evenly spaced measured TDS values that bracket the minimum and maximum values expected. The highest laboratory TDS sample used for the correlation shall be greater than the maximum allowable TDS of 3500 ppmw.
- 2) Perform an annual inspection of the drift eliminator and perform any maintenance

necessary to ensure the device operates according to the manufacturer's specifications. 3) The permittee shall monitor the cooling water inlet and outlet streams for hydrocarbons on an annual basis using either EPA Method 8015 with a large enough sample to achieve accurate quantification of hydrocarbon content, EPA Method 8260, EPA Method 8270 or a similar method as approved by the Department prior to testing.
Recordkeeping: The permittee shall maintain the following records: 1) Manufacturer's specifications demonstrating maximum capacities of the recirculating water pumps and the manufacturer's specification for the drift eliminator specified drift rate; 2) Monthly TDS and monthly rolling 12-month average; 3) If a conductivity meter is installed, a record of the correlation between conductivity and TDS, any laboratory analyses used to determine the correlation, and all related calculations; 4) Annual drift eliminator inspection and any records of maintenance performed. The permittee shall maintain records in accordance with Section B109.
Reporting: The permittee shall report in accordance with Section B110.

A213 Wastewater Systems

A. NSPS Subpart QQQ, Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems

Requirement: Beginning December 31, 2003, all remaining and newly installed individual drain systems, oil-water separators, and aggregate facilities not previously specified shall be affected facilities, as the term is used in the NSPS, 40 CFR Part 60, Subpart QQQ, and shall be subject to and comply with the applicable requirements of 40 CFR Part 60, Subpart QQQ. (CD ¶29) The permittee shall comply with all applicable requirements of NSPS Subpart QQQ for the affected sources in Tables 103.B, C, G. (60.690)
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 60, Subpart QQQ. (60.695 and 60.696)
Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 60.697.
Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 60.698.

B. MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries"

Requirement: The permittee shall comply with all applicable requirements of MACT Subpart CC, "National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries" for all affected sources shown in Tables 103.B, C, G attached. (63.640).
Monitoring: The permittee shall comply with the applicable monitoring and testing requirements of 40 CFR 63, Subpart CC.

Recordkeeping: The permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.655.

Reporting: The permittee shall comply with the applicable reporting requirements of 40 CFR 63.655.

C. Wastewater Treatment System (Units shown in Table 106.I)

Requirement: Compliance with the emission limits in Table 106.I shall be demonstrated by properly maintaining and repairing the units, and running the Wastewater Model annually to calculate the maximum VOC emissions generated.

Monitoring:

(1) Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur for the following events:

- (a) Routine maintenance that takes a unit out of service for more than two hours during any twenty-four hour period.
- (b) Unscheduled repairs that require a unit to be taken out of service for more than two hours in any twenty-four hour period.

(2) The permittee shall annually run the Waste-Water Model to determine the hourly and annual emission rates, based on EPA's WATER9, the wastewater treatment model.

Recordkeeping:

(1) The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.

(2) The permittee shall maintain records of the EPA's WATER9, the wastewater treatment model Input Parameters and the emission calculation results compared to permit limits.

Reporting: The permittee shall report in accordance with Section B110.

PART B GENERAL CONDITIONS (Attached)

**PART C MISCELLANEOUS: Supporting On-Line Documents; Definitions;
Acronyms (Attached)**

PART D ATTACHMENTS

Table 103.B, Summary Applicability – Fugitives [return]

Title V Permit Unit ID	Description	20.2.37	MACT CC	NSPS GGG	NSPS GGGa	NSPS QQQ^a	NESHAP J^b	NESHAP V^c
FUG-02-SP CRUDE	South Division Crude Unit	YES	NO	NO	YES	YES	NO	NO
FUG-05-KERO	Kerosene HDS Unit	NO	NO	NO	YES	YES	NO	NO
FUG-06-NH DU	Naphtha HDS Unit 06	NO	NO	NO	YES	YES	NO	NO
FUG-07-N AMINE	Amine Unit-Treating/Regen.	YES	NO	NO	YES	YES	NO	NO
FUG-07-SWS1	Sour Water Stripper	YES	NO	NO	YES	YES	NO	NO
FUG-08-TRUCK RK	Loading Racks	NO	NO	NO	YES	YES	NO	NO
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	YES	NO	NO	YES	YES	NO	NO
FUG-10-FCC	FCC w/CVS	YES	NO	NO	YES	YES	NO	NO
FUG-13-NH DU	Naphtha HDS Unit 13	YES	NO	NO	YES	YES	NO	NO
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	NO	NO	NO	YES	YES	NO	NO
FUG-20-ISOM	BenFree Unit	NO	NO	NO	YES	YES	NO	NO
FUG-21-SP VACUUM	Flasher/Vacuum Unit	NO	NO	NO	YES	YES	NO	NO
FUG-25-ROSE-2	ROSE Unit	YES	NO	NO	YES	YES	NO	NO
FUG-29-BLENDER/TK FARM	Light Oil Tankage	NO	NO	NO	YES	YES	NO	NO
FUG-31-SRU3/TGTU3/TGI3	SRU3 Unit	YES	NO	NO	YES	YES	NO	NO
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/CVS	YES	NO	NO	YES	YES	NO	NO
FUG-34-HYDROCRACKER	WX Hydrocracker	YES	NO	NO	YES	YES	NO	NO
FUG-35-SAT GAS	Saturates Gas Plant	NO	NO	NO	YES	YES	NO	NO
FUG-41-PBC	PBC Unit	NO	NO	NO	YES	YES	NO	NO
FUG-43-S ALKY	South Alky Unit (W-76)	YES	NO	NO	YES	YES	NO	NO
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	NO	NO	YES	YES	NO	NO
FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	NO	NO	NO	YES	YES	NO	NO
FUG-54-PRIMEG	Prime G Unit	YES	NO	NO	YES	YES	NO	NO

Title V Permit Unit ID	Description	20.2.37	MACT CC	NSPS GGG	NSPS GGGa	NSPS QQQ^a	NESHAP J^b	NESHAP V^c
FUG-63-H2 PLANT-1	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO
FUG-64-H2 PLANT-2	Hydrogen Plant	NO	NO	NO	NO	YES	NO	NO
FUG-70-CCR	CCR Reformer (w/in battery limits)	YES	NO	NO	YES	YES	NO	NO
FUG-73-SP UTIL	Utilities	NO	NO	NO	NO	YES	NO	NO
FUG-80-WWTP CVS	Oil/Water Separator	YES	NO	NO	YES	YES	NO	NO
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	NO	NO	NO	NO	YES	NO	NO
FUG-FUEL GAS	Fuel Gas Distribution System	NO	YES	NO	YES	YES	NO	NO
FUG-LPG	LPG Storage System	NO	NO	NO	YES	YES	NO	NO
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	NO	NO	NO	NO	YES	NO	NO
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/CVS	YES	NO	NO	YES	YES	NO	NO
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks.	NO	NO	NO	NO	YES	NO	NO

a. All wastewater sources subject to NSPS QQQ per consent decree Section 29B.

b. No refinery streams contain benzene at concentrations of 10 wt% or greater.

c. NESHAP V is only applicable if subject to NESHAP J.

Table 103.C, Summary Applicability - Tanks

Tank No.	NSPS K	NSPS Ka	NSPS Kb	MACT CC Storage	MACT CC Wastewater	NESHAP FF	NSPS QQQ	20.2.37.205 NMAC	20.2.38.109 NMAC	20.2.38.110 NMAC	20.2.38.112 NMAC	20.2.38.113 NMAC	CAM
RW-4	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
RW-5	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	NO	NO
RW-6	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	YES	NO	YES	NO
T-0001	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0002	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0003	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0004	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO
T-0011	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0012	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0026	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0028	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0031	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0040	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0041	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0042	NO	NO	NO	NO	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0045	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0046	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0049	NO	NO	NO	YES	N/A	YES	YES	NO	NO	NO	NO	NO	NO
T-0055	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0056	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0057	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0059	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0061	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0063	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0064	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0065	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0071	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0072	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0073	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0074	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0075	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0076	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0079	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0081	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0082	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0106	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0107	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0108	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0109	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO

Tank No.	NSPS K	NSPS Ka	NSPS Kb	MACT CC Storage	MACT CC Wastewater	NESHAP FF	NSPS QQQ	20.2.37.205 NMAC	20.2.38.109 NMAC	20.2.38.110 NMAC	20.2.38.112 NMAC	20.2.38.113 NMAC	CAM
T-0110	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0111	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0112	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0114	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0115	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0116	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0117	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0119	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0124	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0400	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0401	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0402	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0410	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0411	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0412	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0413	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0415	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0417	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0418	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0419	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0420	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0422	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0423	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0431	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0432	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0433	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0434	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0435	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0437	YES	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0438	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0439	NO	YES	NO	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0446	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0447	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0448	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0449	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0450	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0451	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0452	NO	NO	YES	NO	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0453	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0460	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO

Tank No.	NSPS K	NSPS Ka	NSPS Kb	MACT CC Storage	MACT CC Wastewater	NESHAP FF	NSPS QQQ	20.2.37.205 NMAC	20.2.38.109 NMAC	20.2.38.110 NMAC	20.2.38.112 NMAC	20.2.38.113 NMAC	CAM
T-0465	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0466	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0467	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0468	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0600	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0737	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	NO
T-0802	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	YES	YES	YES	NO
T-0803	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0804	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0807	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0809	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-0814	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0815	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-0816	NO	NO	NO	NO	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0830	NO	NO	YES	NO	YES	YES	YES	YES	NO	NO	YES	NO	NO
T-0834	NO	NO	NO	YES	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0835	NO	NO	NO	YES	N/A	N/A	N/A	YES	YES	YES	NO	NO	NO
T-0838	NO	NO	NO	YES	N/A	N/A	N/A	YES	NO	NO	NO	NO	NO
T-0839	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0840	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0841	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0891	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-0892	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1221	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1222	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1223	NO	NO	NO	NO	N/A	N/A	N/A	NO	NO	NO	NO	NO	NO
T-1224	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO
T-1225	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-1227	NO	NO	YES	YES	N/A	N/A	N/A	YES	NO	NO	YES	NO	NO
T-5401	NO	NO	YES	YES	N/A	N/A	N/A	YES	YES	YES	YES	YES	NO
T-0829	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO

Table 103.D, Summary Applicability – Loading

Unit ID	Description	MACT CC	20.2.37.205.C	MACT BBBBBB	MACT CCCCCC	CAM
TLO-1	Asphalt Truck Loading and Off-Loading Rack #1	NO	NO	NO	NO	NO
TL-2	Asphalt Truck Loading Rack #2	NO	NO	NO	NO	NO
TL-4	Fuels Truck Loading Rack	YES	NO	NO	NO	NO
TL-7	CBO/LCO Truck Loading Rack	NO	NO	NO	NO	NO
RLO-8	Railcar Loading & Off-Loading Rack	NO	NO	NO	NO	NO
RLO-19	Railcar Loading & Off-Loading Rack	NO	NO	NO	NO	NO
TLO-20	Asphalt/Pitch Truck Loading Rack	NO	NO	NO	NO	NO

Table 103.E, Summary Applicability – Heaters and Boilers

Unit ID	Description	NSPS D	NSPS Db	NSPS Dc	NSPS J	NSPS Ja	MACT DDDDD	20.2.33.108 NMAC	20.2.37 NMAC	CAM
B-0007	Boiler 7	NO	YES	NO	YES	NO	YES	YES	YES	NO
B-0008	Boiler 8	NO	YES	NO	YES	NO	YES	YES	YES	NO
B-0009	Boiler 9	NO	YES	NO	NO	Yes	YES	YES	YES	NO
H-0009	Unit 13 Naphtha Splitter Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0011	Unit 21 Vacuum Unit Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0018	Unit 06 HDS Reboiler	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0019	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0020	South Crude Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0028	Unit 21 Heater H-28	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0030	Unit 06 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0040	Unit 13 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0303	Unit 05 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0312	Unit 10 FCC Feed Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0352	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0353	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0354	Unit 70 CCR Reformer Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0355	Unit 70 Stabilizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0362	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0363	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO

Unit ID	Description	NSPS D	NSPS Db	NSPS Dc	NSPS J	NSPS Ja	MACT DDDDD	20.2.33.108 NMAC	20.2.37 NMAC	CAM
H-0364	Unit 70 CCR Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0421	Unit 44 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0464	SRU Hot Oil Heater	NO	NO	YES	YES	NO	NO	NO	YES	NO
H-0473	SRU1 and SRU2 Tail Gas Incinerator	NO	NO	NO	YES	NO	NO	NO	YES	NO
H-0600	Unit 09 Depropanizer Reboiler Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-0601	Unit 33 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-2421	Unit 45 Charge Heater	NO	NO	NO	YES	NO	YES	NO	YES	NO
H-8801/ H-8802	Unit 63 Hydrogen Plant Reformer	NO	NO	NO	YES	NO	YES	YES	YES	NO
H-3402	Unit 34 Hydrocracker Reboiler 1	NO	NO	NO	NO	YES	YES	NO	YES	NO
H-3403	Hydrocracker Reactor Charge Heater	NO	NO	NO	NO	YES	YES	NO	YES	NO
H-5401	Unit 54 HDS Reactor Heater	NO	NO	NO	NO	YES	YES	NO	YES	NO
H-9851	Unit 64 Hydrogen Plant Reformer	NO	NO	NO	NO	YES	YES	YES	YES	NO
H-2501	Unit 25 ROSE® Unit No.2 Hot Oil Heater	NO	YES	NO	NO	YES	YES	YES	YES	NO
H-3101 (formerly SRU3-HOH)	SRU3 Hot Oil Heater	NO	NO	NO	NO	YES	NO	NO	YES	NO
SRU3-TGI	SRU3 Tail Gas Incinerator	NO	NO	NO	NO	YES	NO	NO	YES	NO

Table 103.F, Summary Applicability – Cooling Towers

Cooling Tower	Description	MACT Q	MACT CC	CAM
Y-0001	TCC Cooling Tower	NO	YES	NO
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	NO	YES	NO
Y-0008	North Alky Cooling Tower	NO	YES	NO
Y-0011	FCC & NP Cooling Tower	NO	YES	NO
Y-0012	Hydrogen Plants Cooling Tower	NO	YES	NO
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	NO	NO	NO

Table 103.G, Summary Applicability – Wastewater [return]

Equipment ID	Emission Point ID	MACT CC Wastewater	NESHAP FF	NSPS QQQ	CAM
MAIN API	D-0829/0830	YES	YES	YES	NO
DAF-0896	DAF-0896	YES	YES	NO	NO
DAF-0806	DAF-0806	YES	YES	NO	NO
T-0801		YES	YES	NO	NO
T-0805		YES	YES	NO	NO
T-0829		YES	YES	NO	NO
T-0836		YES	YES	NO	NO
T-0897		YES	YES	NO	NO

Table 103.H, Summary Applicability – FCC-CCR

Unit ID	NSPS J	NSPS Ja	MACT UUU	20.2.37 NMAC	CAM
FCCREGEN	YES	NO	YES	YES	YES - Satisfied by MACT UUU
CCR	N/A	N/A	YES	N/A	NO

Table 103.I, Summary Applicability – SRU

Source ID	Emission Point ID	Description	NSPS J	NSPS Ja	MACT UUU	20.2.37.200B	20.2.37.202.A	20.2.39	CAM
SRU1	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	NO	YES- Satisfied by MACT UUU
SRU2	H-0473	SRU1 and SRU2 Tail Gas Incinerator	YES	NO	YES	YES	YES	NO	YES- Satisfied by MACT UUU
SRU3	SRU3-TGI	SRU3 Tail Gas Incinerator	NO	YES	YES	YES	YES	NO	YES- Satisfied by MACT UUU

Table 103.J, Summary Applicability – Engines [return]

Source ID	Description	NSPS IIII	MACT ZZZZ	20.2.61.109 NMAC	CAM
E-0600W	Fire Water Pump Engine	YES	YES	YES	NO
E-0601M	Fire Water Pump Engine	YES	YES	YES	NO
E-0602E	Fire Water Pump Engine	YES	YES	YES	NO
E-0603	Fire Water Pump Engine	YES	YES	YES	NO
E-0901	Fire Water Pump Engine	YES	YES	YES	NO
G-0100	UPS backup generator	NO	YES	YES	NO
G-0101	UPS backup generator	NO	YES	YES	NO
V-0543	Portable Air Compressor	YES	YES	YES	NO
V-0545	Portable Air Compressor	YES	YES	YES	NO
V-0546	Portable Air Compressor	YES	YES	YES	NO
E-8010	WWTP Emergency Engine	YES	YES	YES	NO

Table 103.K, Summary Applicability – FLARES [return]

Unit ID	Description	NSPS A	NSPS J	NSPS Ja	NESHAP A	MACT A	20.2.37.201B NMAC
FL-400	North Plant Flare	YES	NO	YES	NO	YES	YES
FL-401	South Plant Flare	YES	NO	YES	NO	YES	YES
FL-402	FCCU Flare	YES	NO	YES	NO	YES	YES
FL-403	Alky Flare	YES	NO	YES	NO	YES	YES
FL-404	GOHT Flare	YES	NO	YES	NO	YES	YES
All flares are steam assisted.							
State of New Mexico requires that an exit gas velocity of 65 ft/sec for modeling.							
The heating value of the gas for all flares is < 1000 BTU/scf.							

Table 104.A: Regulated Sources List [return to A104]

Unit No.	Unit Type	Manufacturer	Model No.	Manufacture Date	Capacity
B-0007	Boiler 7	Todd/John Zink burners	Unknown	10/8/2001 *	215 MMBtu/hr (LHV Basis)
B-0008	Boiler 8	Todd/John Zink burners	Unknown	2003 *	215 MMBtu/hr (LHV Basis)
B-0009	Boiler 9	Babcock & Wilcox	TBD	TBD	220 MMBtu/hr (LHV Basis)
E-8010	WWTP Diesel Pump Engine	John Deere	6090HF485/ RG6090L101484	2/2011	400 hp
E-0600W	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113548	7/2012	376 hp
E-0601M	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113561	7/2012	376 hp
E-0602E	Fire Water Pump Engine	Clarke Diesel (John Deere)	JW6H-UFAD70/ RG6090L113574	7/2012	376 hp
E-0603	Fire Water Pump Engine	Clarke Diesel (John Deere)	JU6H-UFADX8/ PE6068L228486	2012	305 hp
E-0901	Fire Water Pump Engine	Clarke Diesel (John Deere)	JX6H-UF30' RG6125A016118	10/2007	430 hp
G-0100	UPS backup generator	Deutz	F4L912GEN/ Engine Family WDZXL05.7010	1998	52 hp
G-0101	UPS backup generator	Deutz	F4L 1011 F/ EI97- 68CA00-000-0053	1999	54 hp
V-0543	Portable Air Compressor	Cummings, Inc.	QSC, 73104611	8/30/2010	260 hp
V-0545	Portable Air Compressor	Cummings, Inc.	QSC, 73142120	4/8/2011	260 hp
V-0546	Portable Air Compressor	Cummings, Inc.	QSC, 46917364	11/19/2008	240 hp
H-0009	Unit 13 Naphtha Splitter Reboiler	Zeeco burners	GSFW-12 burners	Unknown	44 MMBtu/hr (LHV Basis)
H-0011	Unit 21 Vacuum Flasher Heater	John Zink burners	HEVD-14	9/26/2014	38 MMBtu/hr (LHV Basis)
H-0018	Naphtha HDS Reboiler	Zeeco burners	GSFW-8 burners	Unknown	32 MMBtu/hr (LHV Basis)

Unit No.	Unit Type	Manufacturer	Model No.	Manufacture Date	Capacity
H-0019	South Crude Charge Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2005	54 MMBtu/hr (LHV Basis)
H-0020	South Crude Charge Heater	Callidus Technologies, LLC burners	CUBL-12W burners	New burners in 2005	78 MMBtu/hr (LHV Basis)
H-0028	Unit 21 Heater H-28 (previously H-10)	John Zink burners	PSFG-12 burners	Unknown	12.3 MMBtu/hr (LHV Basis)
H-0030	Unit 06 Charge Heater	John Zink burners	PSFG-16R burners	2000*	42 MMBtu/hr (LHV Basis)
H-0040	Unit 13 Charge Heater	John Zink burners	PSFG-16 burners	1990*	42 MMBtu/hr (LHV Basis)
H-0303	Unit 05 Charge Heater	John Zink burners	HEVD-Q-18 burners	1982*	11 MMBtu/hr (LHV Basis)
H-0312	Unit 10 FCC Feed Heater	John Zink burners	VYD-18 burners	1990*	35 MMBtu/hr (LHV Basis)
H-0352	Unit 70 CCR Heater (previously 70-H1)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	63 MMBtu/hr (LHV Basis)
H-0353	Unit 70 CCR Heater (previously 70-H2)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	81 MMBtu/hr (LHV Basis)
H-0354	Unit 70 CCR Heater (previously 70-H3)	Callidus Technologies, LLC burners	CUBL-10W burners	New burners in 2006	56 MMBtu/hr (LHV Basis)
H-0355	Unit 70 Stabilizer Reboiler Heater H-355 (previously 70H-4)	John Zink burners	Unknown	1991*	24 MMBtu/hr (LHV Basis)
H-0362	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2006	40 MMBtu/hr (LHV Basis)
H-0363	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-8W burners	New burners in 2006	50 MMBtu/hr (LHV Basis)
H-0364	Unit 70 CCR Heater	Callidus Technologies, LLC burners	CUBL-6W burners	New burners in 2006	35 MMBtu/hr (LHV Basis)
H-0421	Unit 44 Charge Heater (previously H-21)	John Zink burners	LNC-PC-18 burners	1981*	27 MMBtu/hr (LHV Basis)
H-0464	SRU Hot Oil Heater	Callidus Technologies, LLC burners	LE-CSG-4W burners	2003*	9.6 MMBtu/hr (LHV Basis)
H-0600	Depropanizer Reboiler Heater (previously 3F-1)	Callidus Technologies, LLC burners	CUBL-12W burners	1991*, New burners in 2009	84 MMBtu/hr (LHV Basis)

Unit No.	Unit Type	Manufacturer	Model No.	Manufacture Date	Capacity
H-0601	Unit 33 Charge Heater	Callidus Technologies, LLC burners	CUB-8P-CW burners	New burners in 2003	78 MMBtu/hr (LHV Basis)
H-2421	Unit 45 Charge Heater	Zeeco, Inc. burners	GLSF-14 Round Flame "Free Jet" burners	2006*	27 MMBtu/hr (LHV Basis)
H-8801	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-8802	Unit 63 Hydrogen Plant Reformer Furnace	Callidus Technologies, LLC burners	LE-CSG-12W-PSA burners	2006*	60 MMBtu/hr (LHV Basis)
H-2501	ROSE2 Hot Oil Heater	John Zink Company, LLC burners	COOLstar-18 burners	2009*	120 MMBtu/hr (LHV Basis)
H-3403	Hydrocracker Reactor Charge Heater	Callidus Technologies, LLC burners	CUBL-10W burners	2011	32.0 MMBtu/hr (LHV Basis)
H-3402	Hydrocracker Fractionator Reboiler 1	Callidus Technologies, LLC burners	LE-CSG-12W burners	2009*	52 MMBtu/hr (LHV Basis)
H-5401	Unit 54 HDS Reactor Heater	Tulsa Heaters Inc.	TBD	2016	21.3 MMBtu/hr HHV
H-9851	Unit 64 Hydrogen Plant Reformer	Callidus Technologies, LLC burners	CUBL-3WDF burners	2009*	337 MMBtu/hr (LHV Basis)
H-3101	SRU3 Hot Oil Heater	Callidus Technologies, LLC burner	Unknown	05/11/2009 *	9.6 MMBtu/hr (LHV Basis)
H-0473 (SRU1/SRU2 TGI)	SRU1 and SRU2 Tail Gas Incinerator	Unknown	Unknown	Unknown	NA
SRU3-TGI	SRU3 Tail Gas Incinerator	Callidus Technologies, LLC burners	Unknown	05/11/2009 *	NA
FCC Regenerator	FCC Regenerator Scrubber	Unknown	Unknown	Unknown	NA
FL-0400, North Plant Flare	North Plant Flare	Unknown	Unknown	Unknown	NA
FL-0401, South Plant Flare	South Plant Flare	Unknown	Unknown	Unknown	NA
FL-0402, FCC Flare	FCC Flare	Unknown	Unknown	Unknown	NA
FL-0403, Alky Flare	Alky Flare	Unknown	Unknown	Unknown	NA
FL-0404, GOHT Flare	GOHT Flare	Unknown	Unknown	Unknown	NA
Y-0001	TCC Cooling Tower	Unknown	Unknown	Unknown	5,000 gpm

Unit No.	Unit Type	Manufacturer	Model No.	Manufacture Date	Capacity
Y-0002	S. Alky Cooling Tower (Marley Cooling Tower)	Unknown	Unknown	Unknown	5,000 gpm
Y-0008	North Alky Cooling Tower	Unknown	Unknown	Unknown	12,500 gpm
Y-0011	FCC & NP Cooling Tower	Unknown	Unknown	Unknown	30,000 gpm
Y-0012	Hydrogen Plants Cooling Tower	Unknown	Unknown	Unknown	10,000 gpm
CT TT-0006	Unit 07 Amine W-0745 Cooling Tower	Unknown	Unknown	Unknown	3,000 gpm
MAIN API	Above Ground API Oil-Water Separator	Unknown	Unknown	Unknown	1,200 gpm
T-0896	DAF Unit T-0896	Unknown	Unknown	Unknown	1,200 gpm
T-0801	Enhanced Biodegradation Tank T-0801	Unknown	Unknown	Unknown	1,200 gpm
T-0836	Enhanced Biodegradation Tank T-0836	Unknown	Unknown	Unknown	1,200 gpm
T-0829	Equalization Tank T-0829	Not yet installed	Not yet installed	Not yet installed	1,200 gpm
T-0806	DAF Unit T-0806	Not yet installed	Not yet installed	Not yet installed	Not yet installed
Fugitives (see Table 103.B)	Equipment component leaks (pump seals, valves, flanges, etc.)	NA	NA	Varies	NA
Loading (see Table 103.D)	Bulk Loading/Unloading Racks	NA	NA	Varies	Varies
Tanks (see Table 103.C)	Fixed Roof, External Floating Roof & Internal Floating Roof Tanks	NA	NA	Varies	Varies
* Installation date					

Note: Serial numbers are not used since most equipment consists of field erected parts that are assembled on site and may have several “serial numbers” for various components. Heaters are the best example because each of the burners has a serial number but the heater as a whole does not have a single serial number. The heater as a whole is typically identified by our equipment number. There may also be a “project number” or “job number” from the manufacturer, but that can change if a heater is revamped at a later date such as when they modify the convection section to improve energy efficiency.

Table 106.A Allowable Emission Limits

		SO ₂		² NO _x			CO		⁴ PM		VOC		H ₂ S	
Source ID	^{3,5} MM Btu/hr	⁵ (lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu)	⁵ (lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
B-0007	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7	1.8	7.8	1.3	5.6		
B-0008	215	7.8	12.7	12.9	56.5	0.06	19.6	85.7	1.8	7.8	1.3	5.6		
B-0009	220	2.6	11.4	4.4	19.3	0.02	8.1	35.7	1.6	7.2	0.9	3.9		
H-0009	44	1.6	2.6	4.0	17.3	0.09	4.0	17.5	0.4	1.6	0.3	1.2		
H-0011	38	1.4	2.3	9.5	31.6	-	3.5	15.2	0.3	1.4	0.2	1.0		
H-0018	32	1.2	1.9	3.5	15.2	-	2.9	12.8	0.3	1.2	0.2	0.8		
H-0019	54	2.0	3.2	2.9	12.5	0.0527	4.9	21.5	0.4	2.0	0.3	1.4		
H-0020	78	2.8	4.6	4.2	18.3	0.0535	7.1	31.1	0.6	2.8	0.5	2.0		
H-0028	12.3	0.4	0.7	2.2	9.5	-	1.1	4.9	0.1	0.4	0.1	0.3		
H-0030	42	1.5	2.5	3.2	14.0	-	3.8	16.8	0.4	1.5	0.3	1.1		
H-0040	42	1.5	2.5	3.8	16.6	-	3.8	16.8	0.4	1.5	0.3	1.1		
H-0303	11	0.4	0.7	1.2	5.2	-	1.0	4.4	0.1	0.4	0.1	0.3		
H-0312	35	1.3	2.1	4.6	20.2	-	3.2	14.0	0.3	1.3	0.2	0.9		
H-0352 /0353/0354	63/81/56	7.3	11.8	9.0	39.4	0.045	18.2	79.7	1.7	7.2	1.2	5.2		
H-0355	24	0.9	1.4	2.2	9.5	-	2.2	9.6	0.2	0.9	0.1	0.6		
H-0362/ 0363/0364	40/50/35	4.6	7.4	6.9	30.1	0.055	11.4	49.8	1.0	4.5	0.7	3.3		
H-0421	27	1.0	1.6	2.4	10.6	0.09	2.5	10.8	0.2	1.0	0.2	0.7		
H-0464	9.6	0.4	0.6	0.5	2.3	-	0.9	3.8	0.1	0.4	0.1	0.3		
H-0600	84	3.1	5.0	4.7	20.3	0.05	7.6	33.5	0.7	3.03	0.5	2.2		
H-0601	78	2.8	4.6	3.5	15.4	0.045	7.1	31.1	0.6	2.8	0.5	2.0		
H-2421	27	1.0	1.6	1.2	5.3	0.045	2.5	10.8	0.2	1.0	0.2	0.7		
H-2501	120	4.4	7.1	3.6	15.8	0.03	7.2	31.5	1.0	4.3	0.7	3.1		
H-3101	9.6	0.4	0.6	0.3	1.3	0.03	0.9	3.8	0.1	0.4	0.1	0.3		
H-3402	52	1.9	3.1	1.6	6.8	0.03	4.7	20.7	0.4	1.9	0.3	1.4		
H-3403	32.0	1.2	1.9	1.0	4.2	0.03	2.9	12.8	0.3	1.2	0.2	0.8		
H-8801	60/60	0.2	0.8	4.2	18.4	0.035	10.9	47.8	1.0	4.3	0.7	3.1		

		SO ₂		² NO _x			CO		⁴ PM		VOC		H ₂ S	
Source ID	^{3,5} MM Btu/hr	⁵ (lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)	⁵ (lb/MM Btu)	⁵ (lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	⁵ (lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
Cooling Towers, Table 106.H								2.5		8.9		56.2		
Oil/Water Separators, Table 106.I											1.3	5.9		
⁶ SSM, Table 107			27.5		31.7			98.0		0.4		36.2	14.32	0.60
Site TOTAL ₁	NA		374.1		729.6	N/A		1281.9		207.1		1531.0	1.7	4.05

¹ Totals are for information and are not enforceable conditions.

² Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO₂

³ lbs-NO_x/MMBtu of heat input, calculated as a 3-hour average, when firing natural gas at 3% stack oxygen at full design load without air preheat.

⁴ All Particulate Matter emitted is assumed to be of aerodynamic diameter 10 microns or less.

⁵ Hourly emission limits and lb/MM Btu limits are based on an hourly rolling 3-hour average.

⁶ Maximum allowable emissions during maintenance, startup, or shutdown (SSM) and malfunction activities.

“-” or leaving a cell blank indicates that in accordance with the application, emissions of this pollutant are not expected.

“- -” indicates that the emissions are less than 1.0 pph or 1.0 tpy and emission limits are not required for this permit, unless it's for a control device.

Unit 9851 has Ammonia Slip limit of 7 ppmv on a wet basis and 6.1 tpy

TABLE 106.B(1)

**VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES
OF VOLATILE ORGANIC COMPOUNDS (VOC)**

INTERNAL FLOATING ROOF STORAGE TANKS

Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0056	Naphthas	High Vapor Pressure ²	11.0
T-0106	Sour Water	High Vapor Pressure ²	11.0
T-0107	Gasolines	High Vapor Pressure ²	11.0
T-0108	Gasolines	High Vapor Pressure ²	11.0
T-0109	Gasolines	High Vapor Pressure ²	11.0
T-0111	Gasolines	High Vapor Pressure ²	11.0
T-0112	Gasolines	High Vapor Pressure ²	11.0
T-0011	Gasolines	High Vapor Pressure ²	11.0
T-0124	Gasolines	High Vapor Pressure ²	11.0
T-0012	Gasolines	High Vapor Pressure ²	11.0
T-0413	Distillates	High Vapor Pressure ²	11.0
T-0415	Gasolines	High Vapor Pressure ²	11.0
T-0417	Gasolines	High Vapor Pressure ²	11.0
T-0439	Naphtha	High Vapor Pressure ²	11.0
T-0451	Biodiesel	High Vapor Pressure ²	11.0
T-0452	Ethanol	High Vapor Pressure ²	11.0

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomerate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

TABLE 106.B(2)

**VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES
OF VOLATILE ORGANIC COMPOUNDS (VOC)**

EXTERNAL FLOATING ROOF STORAGE TANKS

Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0057	Naphthas	High Vapor Pressure ²	11.0
T-0079	Gasolines	High Vapor Pressure ²	11.0
T-0117	Gasolines	High Vapor Pressure ²	11.0
T-0401	Gasolines	High Vapor Pressure ²	11.0
T-0402	Gasolines	High Vapor Pressure ²	11.0
T-0411	Gasolines	High Vapor Pressure ²	11.0
T-0412	Gasolines	High Vapor Pressure ²	11.0
T-0435	Sour Water	High Vapor Pressure ²	11.0
T-0437	Crude Oil	High Vapor Pressure ²	11.0
T-0450	Naphthas	High Vapor Pressure ²	11.0
T-0802	Sour Water	High Vapor Pressure ²	11.0
T-0830	Slop	High Vapor Pressure ²	11.0
T-0834	Distillates	Moderate Vapor Pressure ³	1.5
T-0835	Distillates	High Vapor Pressure ²	11.0
T-1225	Crude Oil	High Vapor Pressure ²	11.0
T-0737	Sour Water	High Vapor Pressure ²	11.0
T-5401	Gasolines	High Vapor Pressure ²	11.0

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomerate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

TABLE 106.C

**VAPOR PRESSURE LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES
OF VOLATILE ORGANIC COMPOUNDS (VOCs)**

FIXED ROOF STORAGE TANKS

Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0040	Spent Caustic	Low Vapor Pressure ⁴	0.5
T-0041	Spent Caustic	Low Vapor Pressure ⁴	0.5
T-0110	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0400	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0410	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0418	Distillates	Low Vapor Pressure ⁴	0.5
T-0419	Distillates	Low Vapor Pressure ⁴	0.5
T-0420	Fuel Oil	Low Vapor Pressure ⁴	0.5
T-0422	Black Oil	Low Vapor Pressure ⁴	0.5
T-0423	Black Oil	Low Vapor Pressure ⁴	0.5
T-0431	Fuel Oil	Low Vapor Pressure ⁴	0.5
T-0432	Fuel Oil	Low Vapor Pressure ⁴	0.5

TABLE 106.C –cont'd

**EMISSION LIMITATIONS FOR REFINERY NON-COMBUSTION SOURCES
OF VOLATILE ORGANIC COMPOUNDS (VOCs)**

FIXED ROOF STORAGE TANKS

Tank No.	Typical Liquid Stored	Most Volatile Category of Allowable Liquids to be Stored¹	Max Vapor Pressure (psia) of Most Volatile Liquid at Max Temp.
T-0049	Slop	Moderate Vapor Pressure ³	1.5
T-0055	Distillates	Low Vapor Pressure ⁴	0.5
T-0059	Distillates	Low Vapor Pressure ⁴	0.5
T-0061	Distillates	Low Vapor Pressure ⁴	0.5
T-0063	Black Oil	Low Vapor Pressure ⁴	0.5
T-0065	Black Oil	Low Vapor Pressure ⁴	0.5
T-0075	Black Oil	Low Vapor Pressure ⁴	0.5
T-0433	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0434	Distillates	Low Vapor Pressure ⁴	0.5
T-0438	Gas Oils	Low Vapor Pressure ⁴	0.5
T-0814	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0815	Distillates	Low Vapor Pressure ⁴	0.5
T-0838	Distillates	Low Vapor Pressure ⁴	0.5
T-1227	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0081	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
T-0082	Asphalt/Pitch	Low Vapor Pressure ⁴	0.5
RW-4	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-5	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0
RW-6	Recovery Well Hydrocarbons	High Vapor Pressure ²	11.0

¹ Liquids in lower volatility categories may also be stored (i.e., tanks allowed to store high vapor pressure category liquids can also store moderate and low vapor pressure category liquids; tanks allowed to store moderate vapor pressure category liquids can also store low vapor pressure category liquids).

² High Vapor Pressure Liquids include: Crude, Naphtha (raw or treated), Unleaded Gasolines (sub-grade, regular, premium, and other blends), Alkylate, Reformate, FCC Gasoline, Ethanol, Isomate, Straight Run Gasoline, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 11 psia or less under actual storage conditions.

³ Moderate Vapor Pressure Liquids include: Desulfurized Naphtha (Splitter Bottoms), Light Slop, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure of 1.5 psia or less under actual storage conditions.

⁴ Low Vapor Pressure Liquids include: Diesel (raw or finished), Kerosene (raw or finished), JP-8, CBO, LCO, Slurry, Heavy Slop, Cutback Asphalt, Cutter, VGO, AGO, and other refinery feedstocks, intermediates, products, byproducts, and wastes having a max vapor pressure less than 0.5 psia under actual storage conditions.

TABLE 106.D – STORAGE TANK THROUGHPUT AND TEMPERATURE LIMITS

Material	Throughput (bbl/yr)	Maximum Storage Temperature (°F)
Asphalt/Pitch	30,872,000	510
Black Oil	3,305,356	250
Crude Oil	76,212,000	Ambient
Distillate	158,185,540	Ambient
Gas Oil	25,059,500	310
Gasoline (includes isomerates)	63,438,600	Ambient
Naphtha	47,632,500	Ambient
Slop	1,049,590	Ambient
Sour Water	15,030,000	Ambient
BioDiesel	949,000	Ambient
Ethanol	142,350	Ambient
Fuel Oil	10,609,022	Ambient
Spent Caustic	56,000	Ambient
Ground Water	7,200	Ambient

TABLE 106.E– STORAGE TANK VOC AND H₂S EMISSION LIMITS¹

Tank Type	VOC Emission Rate (tpy)	H₂S Emission Rate (tpy)
Fixed-Roof	195.53	0.0
Floating-Roof	101.77	0.83
Total Tanks	297.30	0.83

¹ See Specific Condition A203.E for monitoring, recordkeeping and reporting requirements.

Table 106.F

**¹EMISSIONS LIMITS FOR REFINERY NON-COMBUSTION SOURCES
OF VOLATILE ORGANIC COMPOUNDS (VOC)
FUGITIVE EMISSIONS FROM EQUIPMENT LEAKS**

Process Unit ID Number	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
FUG-02-SP CRUDE	South Division Crude Unit	10.2	44.6
FUG-10-FCC	FCC w/CVS	10.8	47.2
FUG-20-ISOM	BenFree Unit	5.94	26.03
FUG-21-SP VACUUM	Flasher/Vacuum Unit	3.2	13.9
FUG-05-KERO	Kerosene HDS Unit	5.2	22.7
FUG-06-NHDU	Naphtha HDS Unit 06	7.11	31.15
FUG-18-LSR MEROX TRT	Merox/Merichem Treating Units	3.5	15.3
FUG-35-SAT GAS	Saturates Gas Plant	18.3	80.0
FUG-29-BLENDER/TK FARM	Light Oil Tankage	6.8	29.6
FUG-ASPHALT STG	Asphalt/Heavy Oil Storage	3.5	15.3
FUG-FUEL GAS	Fuel Gas Distribution System	4.2	18.2
FUG-LPG	LPG Storage System	21.6	94.4
FUG-41-PBC	PBC Unit	3.4	14.7
FUG-70-CCR	CCR Reformer (w/in battery limits)	23.4	102.3
FUG-13-NHDU	Naphtha HDS Unit 13	10.17	44.55
FUG-43-S ALKY	South Alky Unit (W-76)	1.7	7.5
FUG-09-N ALKY	North Alkylation Unit (New-Inside battery limits)	12.0	52.5
FUG-44-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	9.39	41.14
FUG-45-DIST-HDU	Gas Oil Hydrotreater (incl. CVS)	2.6	11.2
FUG-07-N AMINE	Amine Unit-Treating/Regen.	6.3	27.5
FUG-SRU1/SRU2/TGTU	SRU1/SRU2/SWS w/CVS	2.4	10.4
FUG-07-SWS1	Sour Water Stripper	1.6	7.0
FUG-80-WWTP CVS	Oil/Water Separator	1.3	5.9
FUG-33-DIST HDU	Relocated Diesel HDS Unit w/CVS	13.47	59.01
FUG-08-TRUCK RK	Loading Racks	2.8	12.1
FUG-RLO-ASPHALT	Asphalt/Pitch Loading Rack	0.7	2.9
FUG-73-SP UTIL	Utilities	16.7	73.3
FUG-63-H2 PLANT-1	Hydrogen Plant	2.6	11.2
FUG-31-SRU3/TGTU3/TGI3	SRU3 Unit	0.7	3.1
FUG-34-	WX Hydrocracker	6.2	27.2

Process Unit ID Number	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
HYDROCRACKER			
FUG-25-ROSE-2	ROSE Unit	8.0	35.1
FUG-64-H2 PLANT-2	Hydrogen Plant	2.6	11.2
FUG-RRTOTRUCK	Crude oil unloading system, closed loop system between railcars and trucks	0.1	0.5
FUG-54-PRIMEG	Prime G Unit	5.6	24.7
Subtotal (for informational purposes only, may differ due to rounding)		234.084	1,023.38

¹ Minor changes within the facility to piping and components that affect fugitive VOC emission source shall be updated and added during the next available significant modification to the NSR permit. The VOC total emissions have a safety level due to rounding to accommodate these minor variations in emissions.

Table 106.G

**EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES
Of VOLATILE ORGANIC COMPOUNDS (VOCs)
-MISCELLANEOUS SOURCES-**

Source ID	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
TLO-1	Asphalt Truck Loading and Off-Loading Rack #1	<0.1	<0.1
TL-2	Asphalt Truck Loading Rack #2	<0.1	<0.1
TL-4 ^a	Fuels Truck Loading Rack	6.7	4.9
TL-7	CBO/LCO Truck Loading Rack	6.3	1.6
RLO-8	Railcar Loading & Off-Loading Rack	6.3	2.1
RLO-19	Railcar Loading & Off-Loading Rack	8.4	5.6
TLO-20	Asphalt/Pitch Truck Loading Rack	<0.1	<0.1
FUG-ODOR	Odor Controlling Atomizer	0.46	2.0
Subtotal (for informational purposes only)		28.6	16.6

a Controlled emission rate. The previous controlled rate was set by the terms of the consent agreement between Navajo Refining Co. and the Department executed January 28, 1994. The agreement required that the incinerator have a minimum 90% destruction efficiency for gasoline loading and a minimum 80% destruction efficiency for diesel fuel loading or Jet A fuel loading. This was achieved by a vapor combustor. This device has since been replaced with a carbon adsorption system compliant with MACT Subpart R, as subject per MACT Subpart CC. Emission limits changed in 195-M-17 to correspond to Title V permit values.

Table 106.H
EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES
OF VOLATILE ORGANIC COMPOUNDS and PM
-COOLING TOWERS-

Source ID	VOC lb/hr	VOC tons/yr	PM (lb/hr)	PM (tons/yr)
Y-0001	1.8	7.9	0.3	1.2
Y-0002	1.8	7.9	0.3	1.2
Y-0008 ^a	6.5	28.3	0.7	2.9
Y-0011	1.3	5.5	0.5	2.3
Y-0012	0.4	1.8	0.2	0.8
CT TT-0006	1.1	4.7	0.2	0.7
Subtotal (for informational purposes only)	12.8	56.2	2.1	9.0

^a Y-0008 includes 0.58 lbs/hour CO and 2.54 tpy CO. This cooling tower provides 100% control of any NH₃ emissions from V-H2 and V-H2-2. Unit 64, Hydrogen Plant has de-aerator line that has dissolved CO that is connected to the cooling tower.

Table 106.I
EMISSION LIMITS FOR REFINERY NON-COMBUSTION SOURCES
OF VOLATILE ORGANIC COMPOUNDS (VOCs)
API OIL/WATER SEPARATORS

Equipment ID	Emission Point ID	Description	Maximum Hourly VOC Emission Rate (lb/hr)	Average Annual VOC Emission Rate (tons/yr)
MAIN API	D-0829/0830	Above Ground API Oil-Water Separators and enclosed drain system.	<0.1	<0.1
T-0896	DAF-0896	DAF Unit T-0896	0.2	0.7
T-0801	T-0801	Enhanced Biodegradation Tank T-0801	0.2	1.0
T-0836	T-0836	Enhanced Biodegradation Tank T-0836	0.8	3.5
T-0829	T-0829	Equalization Tank T-0829	<0.1	<0.1
T-0806	DAF-0806	DAF Unit T-0806	0.2	0.7
		Subtotal (for informational purposes only)	1.3	5.9

Table 107.A [return]
MAINTENANCE STARTUP AND SHUTDOWN EMISSION LIMITS

		NO _x		CO		VOC		PM/PM ₁₀ /PM _{2.5}		SO ₂		H ₂ S	
Unit	Description of Emissions	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy
SSM H-9851	Emissions during SCR downtime	10.1	1.2	20.2	2.4	2.0	0.2	2.8	0.3	0.5	0.1	--	--
SSM T-0737	Emissions from roof landing	--	--	--	--	33.0	0.5	--	--	--	--	--	--
SSM SRU3-TGI	Emissions from SRU3 startup and shutdown	6.5	0.1	15.0	0.1	0.1	0.1	--	--	159.0	0.4	6.5	0.1
SSM FL-HEP-PORT	Temporary, portable flare for natural gas pipeline maintenance	173.4	0.1	943.5	0.5	160.7	0.1	--	--	1.7	0.1	0.02	0.1
SSM SRU2-TGI (H-0473)	Emissions from SRU2 startup and shutdown	6.5	0.1	27.7	0.2	0.2	0.1	--	--	159.0	0.4	6.6	0.1
SSM Flare Cap	Emissions from venting MSS activity gases to FL-400, FL-401, FL-402, FL-403, or FL-404.	162.9	18.3	1243.0	77.0	211.6	13.2	--	--	1133.4	14.9	0.4	0.1
Flares Malf Cap	Upset and Malfunction Emissions	--	10.0	--	10.0	--	10.0	--	--	--	10.0	--	--
SSM Misc 2	Low-Emitting Maintenance Activities such as de-inventorying small equipment, clearing piping associated with emission units, and routine maintenance activities such as heat exchanger repair.	17.0	1.9	127.1	7.8	21.2	1.4	--	--	129.3	1.6	0.7	0.1
SSM Tanks Misc	Storage Tanks	--	--	--	--	173.1	10.6	--	--	--	--	0.1	0.1
Subtotal SSM/M1			31.7		98.0		36.2		0.3		27.5	14.32	0.6

**AIR QUALITY BUREAU
NEW SOURCE REVIEW PERMIT
Issued under 20.2.72 NMAC**

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PART B GENERAL CONDITIONS**B100 Introduction**

- A. The Department has reviewed the permit application for the proposed construction/modification/revision and has determined that the provisions of the Act and ambient air quality standards will be met. Conditions have been imposed in this permit to assure continued compliance. 20.2.72.210.D NMAC, states that any term or condition imposed by the Department on a permit is enforceable to the same extent as a regulation of the Environmental Improvement Board.

B101 Legal

- A. The contents of a permit application specifically identified by the Department shall become the terms and conditions of the permit or permit revision. Unless modified by conditions of this permit, the permittee shall construct or modify and operate the Facility in accordance with all representations of the application and supplemental submittals that the Department relied upon to determine compliance with applicable regulations and ambient air quality standards. If the Department relied on air quality modeling to issue this permit, any change in the parameters used for this modeling shall be submitted to the Department for review. Upon the Department's request, the permittee shall submit additional modeling for review by the Department. Results of that review may require a permit modification. (20.2.72.210.A NMAC)
- B. Any future physical changes, changes in the method of operation or changes in restricted area may constitute a modification as defined by 20.2.72 NMAC, Construction Permits. Unless the source or activity is exempt under 20.2.72.202 NMAC, no modification shall begin prior to issuance of a permit. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)
- C. Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, will increase the discharge of emissions or affect modeling results. Any such proposed changes shall be submitted as a revision or modification. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)
- D. The permittee shall establish and maintain the property's Restricted Area as identified in plot plan submitted with the application. (20.2.72 NMAC Sections 200.A.2 and E, and 210.B.4)
- E. Applications for permit revisions and modifications shall be submitted to:
Program Manager, Permits Section
New Mexico Environment Department

Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

- F. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollutant control practices for minimizing emissions. (20.2.7.109 NMAC). The establishment of allowable malfunction emission limits does not supersede this requirement.

B102 Authority

- A. This permit is issued pursuant to the Air Quality Control Act (Act) and regulations adopted pursuant to the Act including Title 20, Chapter 2, Part 72 of the New Mexico Administrative Code (NMAC), (20.2.72 NMAC), Construction Permits and is enforceable pursuant to the Act and the air quality control regulations applicable to this source.
- B. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the delegation and exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).

B103 Annual Fee

- A. The Department will assess an annual fee for this Facility. The regulation 20.2.75 NMAC set the fee amount at \$1,500 through 2004 and requires it to be adjusted annually for the Consumer Price Index on January 1. The current fee amount is available by contacting the Department or can be found on the Department's website. The AQB will invoice the permittee for the annual fee amount at the beginning of each calendar year. This fee does not apply to sources which are assessed an annual fee in accordance with 20.2.71 NMAC. For sources that satisfy the definition of "small business" in 20.2.75.7.F NMAC, this annual fee will be divided by two. (20.2.75.11 NMAC)
- B. All fees shall be remitted in the form of a corporate check, certified check, or money order made payable to the "NM Environment Department, AQB" mailed to the address shown on the invoice and shall be accompanied by the remittance slip attached to the invoice.

B104 Appeal Procedures

- A. Any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for hearing before the Environmental Improvement Board. The petition shall be made in writing to the

Environmental Improvement Board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered and attach a copy of the permitting action for which review is sought. Unless a timely request for hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to: (20.2.72.207.F NMAC)

Secretary, New Mexico Environmental Improvement Board
1190 St. Francis Drive, Runnels Bldg. Rm. N2153
Santa Fe, New Mexico 87502

B105 Submittal of Reports and Certifications

- A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to Stacktest.AQB@state.nm.us or as directed by the Department.
- B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC)
- C. Routine reports shall be submitted to the mailing address below, or as directed by the Department:

Manager, Compliance and Enforcement Section
New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

B106 NSPS and/or MACT Startup, Shutdown, and Malfunction Operations

- A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c), unless specifically exempted in the applicable subpart.
- B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction shall not be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

- C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart.

B107 Startup, Shutdown, and Maintenance Operations

- A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (SSM work practice plan) (20.2.7.14.A NMAC)

B108 General Monitoring Requirements

- A. These requirements do not supersede or relax requirements of federal regulations.
- B. The following monitoring requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer.
- C. If the emission unit is shutdown at the time when periodic monitoring is due to be completed, the permittee is not required to restart the unit for the sole purpose of conducting the monitoring. Using electronic or written mail, the permittee shall notify the Department's Compliance and Enforcement Section of a delay in emission tests prior to the deadline for completing the tests. Upon recommencing operation, the permittee shall submit pre-test notification(s) to the Department's Compliance and Enforcement Section and shall complete the monitoring.
- D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke the monitoring period exemption at B108.D(2), hours of operation shall be monitored and recorded.
 - (1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period.

- (2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods.
 - (3) If invoking the monitoring **period** exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during any five-year period.
- E. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.
- F. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.
- G. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance.

B109 General Recordkeeping Requirements

- A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any other applicable requirements that become effective after permit issuance. The minimum information to be included in these records is as follows:
 - (1) Records required for testing and sampling:

- (a) equipment identification (include make, model and serial number for all tested equipment and emission controls)
 - (b) date(s) and time(s) of sampling or measurements
 - (c) date(s) analyses were performed
 - (d) the qualified entity that performed the analyses
 - (e) analytical or test methods used
 - (f) results of analyses or tests
 - (g) operating conditions existing at the time of sampling or measurement
 - (2) Records required for equipment inspections and/or maintenance required by this permit:
 - (a) equipment identification number (including make, model and serial number)
 - (b) date(s) and time(s) of inspection, maintenance, and/or repair
 - (c) date(s) any subsequent analyses were performed (if applicable)
 - (d) name of the person or qualified entity conducting the inspection, maintenance, and/or repair
 - (e) copy of the equipment manufacturer's or the owner or operator's maintenance or repair recommendations (if required to demonstrate compliance with a permit condition)
 - (f) description of maintenance or repair activities conducted
 - (g) all results of any required parameter readings
 - (h) a description of the physical condition of the equipment as found during any required inspection
 - (i) results of required equipment inspections including a description of any condition which required adjustment to bring the equipment back into compliance and a description of the required adjustments
- B. Except as provided in the Specific Conditions, records shall be maintained on-site or at the permittee's local business office for a minimum of two (2) years from the time of recording and shall be made available to Department personnel upon request. Sources subject to 20.2.70 NMAC "Operating Permits" shall maintain records on-site for a minimum of five (5) years from the time of recording.

- C. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine or predictable emissions during startup, shutdown, and scheduled maintenance (SSM):
- (1) The owner or operator of a source subject to a permit shall establish and implement a plan to minimize emissions during routine or predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC - Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC.
 - (2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies.
 - (3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.
 - (4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

B110 General Reporting Requirements

(20.2.72 NMAC Sections 210 and 212)

- A. Records and reports shall be maintained on-site or at the permittee's local business office unless specifically required to be submitted to the Department or EPA by another condition of this permit or by a state or federal regulation. Records for unmanned sites may be kept at the nearest business office.
- B. The permittee shall notify the Department's Compliance Reporting Section using the current Submittal Form posted to NMED's Air Quality web site under Compliance and Enforcement/Submittal Forms in writing of, or provide the Department with (20.2.72.212.A and B):
 - (1) the anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date. Notification may occur prior to issuance of the permit, but actual startup shall not occur earlier than the permit issuance date;
 - (2) after receiving authority to construct, the equipment serial number as provided by the manufacturer or permanently affixed if shop-built and the actual date of initial startup of each new or modified source within fifteen (15) days after the startup date; and
 - (3) the date when each new or modified emission source reaches the maximum production rate at which it will operate within fifteen (15) days after that date.
- C. The permittee shall notify the Department's Permitting Program Manager, in writing of, or provide the Department with (20.2.72.212.C and D):
 - (1) any change of operators or any equipment substitutions within fifteen (15) days of such change;
 - (2) any necessary update or correction no more than sixty (60) days after the operator knows or should have known of the condition necessitating the update or correction of the permit.
- D. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format.
- E. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC.

B111 General Testing Requirements**A. Compliance Tests**

- (1) Compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions. (20.2.72 NMAC Sections 210.C and 213)
- (2) Compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.
- (3) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Department approval, be determined using the arithmetic mean of the results of the two other runs.
- (4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate, subject to the approval of the Department.
- (5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.
- (6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

B. EPA Reference Method Tests

- (1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of this permit, shall be conducted in accordance with the requirements of CFR Title 40, Part 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by CFR Title 40, Part 60, Appendix A:
 - (a) Methods 1 through 4 for stack gas flowrate

- (b) Method 5 for TSP
 - (c) Method 6C and 19 for SO₂
 - (d) Method 7E for NO_x (test results shall be expressed as nitrogen dioxide (NO₂) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO₂ is equivalent to 1.194×10^{-7} lb/SCF)
 - (e) Method 9 for opacity
 - (f) Method 10 for CO
 - (g) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter).
 - (h) Method 7E or 20 for Turbines per 60.335 or 60.4400
 - (i) Method 29 for Metals
 - (j) Method 201A for filterable PM₁₀ and PM_{2.5}
 - (k) Method 202 for condensable PM
 - (l) Method 320 for organic Hazardous Air Pollutants (HAPs)
 - (m) Method 25A for VOC reduction efficiency
 - (n) Method 30B for Mercury
- (2) Alternative test method(s) may be used if the Department approves the change

C. Periodic Monitoring and Portable Analyzer Requirements

- (1) Periodic emissions tests (periodic monitoring) may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of the current version of ASTM D 6522. However, if a facility has met a previously approved Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced.
- (2) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 20 minutes.

Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit.
- (3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.E.

- (4) During emissions tests, pollutant and diluent concentration shall be monitored and recorded. Fuel flow rate shall be monitored and recorded if stack gas flow rate is determined utilizing Method 19. This information shall be included with the test report furnished to the Department.
- (5) Stack gas flow rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) determined by a dedicated fuel flow meter and fuel heating value (Btu/scf) determined from a fuel sample obtained preferably during the day of the test, but no earlier than three months prior to the test date. Alternatively, stack gas flow rate may be determined by using EPA Methods 1-4.

D. Test Procedures:

- (1) The permittee shall notify the Department's Program Manager, Compliance and Enforcement Section at least thirty (30) days before the test date and allow a representative of the Department to be present at the test.
- (2) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.
- (3) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing.
- (4) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment.
- (5) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Method 1 or ASTM D 6522-00 as applicable.
- (6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed
- (7) Unless otherwise indicated by Specific Conditions or regulatory requirements, test reports shall be submitted to the Department no later than 30 days after completion of the test.

B112 Compliance

- A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or

copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)

- B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.72.210.B.4 NMAC)
- C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit.

B113 Permit Cancellation and Revocation

- A. The Department may revoke this permit if the applicant or permittee has knowingly and willfully misrepresented a material fact in the application for the permit. Revocation will be made in writing, and an administrative appeal may be taken to the Secretary of the Department within thirty (30) days. Appeals will be handled in accordance with the Department's Rules Governing Appeals From Compliance Orders.
- B. The Department shall automatically cancel any permit for any source which ceases operation for five (5) years or more, or permanently. Reactivation of any source after the five (5) year period shall require a new permit. (20.2.72 NMAC)
- C. The Department may cancel a permit if the construction or modification is not commenced within two (2) years from the date of issuance or if, during the construction or modification, work is suspended for a total of one (1) year. (20.2.72 NMAC)

B114 Notification to Subsequent Owners

- A. The permit and conditions apply in the event of any change in control or ownership of the Facility. No permit modification is required in such case. However, in the event of any such change in control or ownership, the permittee shall notify the succeeding owner of the permit and conditions and shall notify the Department's Program Manager, Permits Section of the change in ownership within fifteen (15) days of that change. (20.2.72.212.C NMAC)

- B. Any new owner or operator shall notify the Department's Program Manager, Permits Section, within thirty (30) days of assuming ownership, of the new owner's or operator's name and address. (20.2.73.200.E.3 NMAC)

B115 Asbestos Demolition

- A. Before any asbestos demolition or renovation work, the permittee shall determine whether 40 CFR 61 Subpart M, National Emissions Standards for Asbestos applies. If required, the permittee shall notify the Department's Program Manager, Compliance and Enforcement Section using forms furnished by the Department.

B116 Short Term Engine Replacement

- A. The following Alternative Operating Scenario (AOS) addresses engine breakdown or periodic maintenance and repair, which requires the use of a short term replacement engine. The following requirements do not apply to engines that are exempt per 20.2.72.202.B(3) NMAC. Changes to exempt engines must be reported in accordance with 20.2.72.202.B NMAC. A short term replacement engine may be substituted for any engine allowed by this permit for no more than 120 days in any rolling twelve month period per permitted engine. The compliance demonstrations required as part of this AOS are in addition to any other compliance demonstrations required by this permit.
 - (1) The permittee may temporarily replace an existing engine that is subject to the emission limits set forth in this permit with another engine regardless of manufacturer, model, and horsepower without modifying this permit. The permittee shall submit written notification to the Department within 15 days of the date of engine substitution according to condition B110.C(1).
 - (a) The potential emission rates of the replacement engine shall be determined using the replacement engine's manufacturer specifications and shall comply with the existing engine's permitted emission limits.
 - (b) The direction of the exhaust stack for the replacement engine shall be either vertical or the same direction as for the existing engine. The replacement engine's stack height and flow parameters shall be at least as effective in the dispersion of air pollutants as the modeled stack height and flow parameters for the existing permitted engine. The following equation may be used to show that the replacement engine disperses pollutants as well as the existing engine. The value calculated for the replacement engine on the right side of the equation shall be equal to or greater than the value for the existing engine on the left side of the equation. The permitting page of the Air Quality Bureau website contains a spreadsheet that performs this calculation.

EXISTING ENGINEREPLACEMENT ENGINE

$$\frac{[(g) \times (h1)] + [(v1)^2/2] + [(c) \times (T1)]}{q1} \leq \frac{[(g) \times (h2)] + [(v2)^2/2] + [(c) \times (T2)]}{q2}$$

Where

g = gravitational constant = 32.2 ft/sec²

h1 = existing stack height, feet

v1 = exhaust velocity, existing engine, feet per second

c = specific heat of exhaust, 0.28 BTU/lb-degree F

T1 = absolute temperature of exhaust, existing engine = degree F + 460

q1 = permitted allowable emission rate, existing engine, lbs/hour

h2 = replacement stack height, feet

v2 = exhaust velocity, replacement engine, feet per second

T2 = absolute temperature of exhaust, replacement engine = degree F + 460

q2 = manufacturer's potential emission rate, replacement engine, lbs/hour

The permittee shall keep records showing that the replacement engine is at least as effective in the dispersion of air pollutants as the existing engine.

(c) Test measurement of NO_x and CO emissions from the temporary replacement engine shall be performed in accordance with Section B111 with the exception of Condition B111A(2) and B111B for EPA Reference Methods Tests or Section B111C for portable analyzer test measurements. Compliance test(s) shall be conducted within fifteen (15) days after the unit begins operation, and records of the results shall be kept according to section B109.B. This test shall be performed even if the engine is removed prior to 15 days on site.

- i. These compliance tests are not required for an engine certified under 40CFR60, subparts IIII, or JJJJ, or 40CFR63, subpart ZZZZ if the permittee demonstrates that one of these requirements causes such engine to comply with all emission limits of this permit. The permittee shall submit this demonstration to the Department within 48 hours of placing the new unit into operation. This submittal shall include documentation that the engine is certified, that the engine is within its useful life, as defined and specified in the applicable requirement, and shall include calculations showing that the applicable emissions standards result in compliance with the permit limits.
- ii. These compliance tests are not required if a test was conducted by portable analyzer or by EPA Method test (including any required by 40CFR60, subparts IIII and JJJJ and 40CFR63, subpart ZZZZ) within the last 12 months. These previous tests are valid only if

conducted at the same or lower elevation as the existing engine location prior to commencing operation as a temporary replacement. A copy of the test results shall be kept according to section B109.B.

- (d) Compliance tests for NOx and CO shall be conducted if requested by the Department in writing to determine whether the replacement engine is in compliance with applicable regulations or permit conditions.
- (e) Upon determining that emissions data developed according to B116.A.1(c) fail to indicate compliance with either the NOx or CO emission limits, the permittee shall notify the Department within 48 hours. Also within that time, the permittee shall implement one of the following corrective actions:
 - i. The engine shall be adjusted to reduce NOx and CO emissions and tested per B116.A.1(c) to demonstrate compliance with permit limits.
 - ii. The engine shall discontinue operation or be replaced with a different unit.
- (2) Short term replacement engines, whether of the same manufacturer, model, and horsepower, or of a different manufacturer, model, or horsepower, are subject to all federal and state applicable requirements, regardless of whether they are set forth in this permit (including monitoring and recordkeeping), and shall be subject to any shield afforded by this permit.
- (3) The permittee shall maintain a contemporaneous record documenting the unit number, manufacturer, model number, horsepower, emission factors, emission test results, and serial number of any existing engine that is replaced, and the replacement engine. Additionally, the record shall document the replacement duration in days, and the beginning and end dates of the short term engine replacement.
- (4) The permittee shall maintain records of a regulatory applicability determination for each replacement engine (including 40CFR60, subparts IIII and JJJJ and 40CFR63, subpart ZZZZ) and shall comply with all associated regulatory requirements.
- B. Additional requirements for replacement of engines at sources that are major as defined in regulation 20.2.74 NMAC, Permits – Prevention of Significant Deterioration, section 7.AG. For sources that are major under PSD, the total cumulative operating hours of the replacement engine shall be limited using the following procedure:
 - (1) Daily, the actual emissions from the replacement engine(s) of each pollutant regulated by this permit for the existing engine shall be calculated and recorded.
 - (2) The sum of the total actual emissions since the commencement of operation of the replacement engine(s) shall not equal or exceed the significant emission rates in

Table 2 of 20.2.74 NMAC, section 502 for the time that the replacement engine is located at the facility.

- C. All records required by this section shall be kept according to section B109.

PART C MISCELLANEOUS

C100 Supporting On-Line Documents

- A. Copies of the following documents can be downloaded from NMED's web site under Compliance and Enforcement or requested from the Bureau.
 - (1) Excess Emission Form (for reporting deviations and emergencies)
 - (2) Universal Stack Test Notification, Protocol and Report Form and Instructions
 - (3) SOP for Use of Portable Analyzers in Performance Tests

C101 Definitions

- A. **"Daylight"** is defined as the time period between sunrise and sunset, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at <http://aa.usno.navy.mil/>. Alternatively, these times can be obtained from a Farmer's Almanac or from <http://www.almanac.com/rise/>).
- B. **"Exempt Sources"** and **"Exempt Activities"** is defined as those sources or activities that are exempted in accordance with 20.2.72.202 NMAC. Note; exemptions are only valid for most 20.2.72 NMAC permitting actions.
- C. **"Fugitive Emission"** means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.
- D. **"Insignificant Activities"** means those activities which have been listed by the department and approved by the administrator as insignificant on the basis of size, emissions or production rate. Note; insignificant activities are only valid for 20.2.70 NMAC permitting actions.
- E. **"Malfunction"** for the requirements under 20.2.7 NMAC, means any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC)
- F. **"Natural Gas"** is defined as a naturally occurring fluid mixture of hydrocarbons that contains 20.0 grains or less of total sulfur per 100 standard cubic feet (SCF) and is either composed of at least 70% methane by volume or has a gross calorific value of between 950 and 1100 Btu per standard cubic foot. (40 CFR 60.631)

- G. **“Natural Gas Liquids”** means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas. (40 CFR 60.631)
- H. **“National Ambient air Quality Standards”** means, unless otherwise modified, the primary (health-related) and secondary (welfare-based) federal ambient air quality standards promulgated by the US EPA pursuant to Section 109 of the Federal Act.
- I. **“Night”** is the time period between sunset and sunrise, as defined by the Astronomical Applications Department of the U.S. Naval Observatory. (Data for one day or a table of sunrise/sunset for an entire year can be obtained at <http://aa.usno.navy.mil/>. Alternatively, these times can be obtained from a Farmer’s Almanac or from <http://www.almanac.com/rise/>).
- J. **“Night Operation or Operation at Night”** is operating a source of emissions at night.
- K. **“NO₂”** or "Nitrogen dioxide" means the chemical compound containing one atom of nitrogen and two atoms of oxygen, for the purposes of ambient determinations. The term "**nitrogen dioxide**," for the purposes of stack emissions monitoring, shall include nitrogen dioxide (the chemical compound containing one atom of nitrogen and two atoms of oxygen), nitric oxide (the chemical compound containing one atom of nitrogen and one atom of oxygen), and other oxides of nitrogen which may test as nitrogen dioxide and is sometimes referred to as NO_x or NO₂. (20.2.2 NMAC)
- L. **“NO_x”** see NO₂
- M. **“Paved Road”** is a road with a permanent solid surface that can be swept essentially free of dust or other material to reduce air re-entrainment of particulate matter. To the extent these surfaces remain solid and contiguous they qualify as paved roads: concrete, asphalt, chip seal, recycled asphalt and other surfaces approved by the Department in writing.
- N. **“Potential Emission Rate”** means the emission rate of a source at its maximum capacity to emit a regulated air contaminant under its physical and operational design, provided any physical or operational limitation on the capacity of the source to emit a regulated air contaminant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its physical and operational design only if the limitation or the effect it would have on emissions is enforceable by the department pursuant to the Air Quality Control Act or the federal Act.
- O. **“Restricted Area”** is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed

by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.

- P. **"Shutdown"** for requirements under 20.2.72 NMAC, means the cessation of operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing out of batch process units.
- Q. **"SSM"** for requirements under 20.2.7 NMAC, means routine or predictable startup, shutdown, or scheduled maintenance.
- (1) **"Shutdown"** for requirements under 20.2.7 NMAC, means the cessation of operation of any air pollution control equipment or process equipment.
 - (2) **"Startup"** for requirements under 20.2.7 NMAC, means the setting into operation of any air pollution control equipment or process equipment.
- R. **"Startup"** for requirements under 20.2.72 NMAC, means the setting into operation of any air pollution control equipment, process equipment or process for any purpose, except routine phasing in of batch process units.

C102 Acronyms

2SLB	2-stroke lean burn
4SLB	4-stroke lean burn
4SRB	4-stroke rich burn
acfm	actual cubic feet per minute
AFR	air fuel ratio
AP-42	EPA Air Pollutant Emission Factors
AQB	Air Quality Bureau
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
Btu	British thermal unit
CAA	Clean Air Act of 1970 and 1990 Amendments
CEM	continuous emissions monitoring
cfh	cubic feet per hour
cfm	cubic feet per minute
CFR	Code of Federal Regulation
CI	compression ignition
CO	carbon monoxides
COMS	continuous opacity monitoring system
EIB	Environmental Improvement Board
EPA	United States Environmental Protection Agency
gr/100 cf	grains per one hundred cubic feet
gr/dscf	grains per dry standard cubic foot
GRI	Gas Research Institute

HAP.....	hazardous air pollutant
hp	horsepower
H ₂ S	hydrogen sulfide
IC	internal combustion
KW/hr	kilowatts per hour
lb/hr	pounds per hour
lb/MMBtu	pounds per million British thermal unit
MACT	Maximum Achievable Control Technology
MMcf/hr.....	million cubic feet per hour
MMscf.....	million standard cubic feet
N/A.....	not applicable
NAAQS.....	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NG	natural gas
NGL	natural gas liquids
NMAAQs	New Mexico Ambient Air Quality Standards
NMAC.....	New Mexico Administrative Code
NMED.....	New Mexico Environment Department
NMSA.....	New Mexico Statutes Annotated
NO _x	nitrogen oxides
NSCR.....	non-selective catalytic reduction
NSPS	New Source Performance Standard
NSR.....	New Source Review
PEM	parametric emissions monitoring
PM.....	particulate matter (equivalent to TSP, total suspended particulate)
PM ₁₀	particulate matter 10 microns and less in diameter
PM _{2.5}	particulate matter 2.5 microns and less in diameter
pph.....	pounds per hour
ppmv	parts per million by volume
PSD	Prevention of Significant Deterioration
RATA.....	Relative Accuracy Test Assessment
RICE	reciprocating internal combustion engine
rpm	revolutions per minute
scfm.....	standard cubic feet per minute
SI	spark ignition
SO ₂	sulfur dioxide
SSM.....	Startup Shutdown Maintenance (see SSM definition)
TAP	Toxic Air Pollutant
TBD.....	to be determined
THC.....	total hydrocarbons
TSP.....	Total Suspended Particulates
tpy	tons per year
ULSD	ultra low sulfur diesel
USEPA.....	United States Environmental Protection Agency

UTM..... Universal Transverse Mercator Coordinate system
UTMH..... Universal Transverse Mercator Horizontal
UTMV..... Universal Transverse Mercator Vertical
VHAP..... volatile hazardous air pollutant
VOC volatile organic compounds

APPLICATION FOR PERMIT RENEWAL

TITLE V OPERATING PERMIT NO. P051-R3 (PERMIT NUMBER AFTER RENEWAL)

Submitted to:

New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

Prepared for:



Artesia Refinery
HollyFrontier Navajo Refining LLC
501 East Main Street
Artesia, Eddy County, New Mexico
Agency Interest No. 198

Prepared by:

Tascosa Alliance Company
4915 Cross Creek Court
Arlington, Texas 76017
817.726.6949

Tascosa Project No: 108-11
May 2019



May 6, 2019

Mr. Ted Schooley
Permitting Section Chief, Air Quality Bureau
New Mexico Environment Department
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505

Certified Mail/Return Receipt No.
7014 3490 0000 6269 5369

**Re: Title V Operating Permit No. P051-R3
Application for Permit Renewal
HollyFrontier Navajo Refining LLC
Artesia Refinery
Agency Interest No. 198**

Dear Mr. Schooley,

HollyFrontier Navajo Refining LLC (Navajo) is submitting this application for renewal of the current Title V Operating Permit No. P051-R2M1 for Navajo's Artesia, NM refinery. Navajo is submitting this application in accordance with 20.2.70.300 NMAC. The New Mexico Environment Department (NMED) last issued/renewed the Title V permit on May 6, 2015. It has a five-year term, and therefore expires May 6, 2020. In accordance with 20.2.70.300.B.(2) NMAC, this renewal application is being submitted at least twelve months prior to the expiration date (i.e., by May 6, 2019).

By this submittal, Navajo requests the NMED renew and update the Title V permit to reflect the Title V and New Source Review (NSR) permitting actions that have been approved by NMED since the last Title V permit issuance/renewal. For reference, the current NSR permit for the Artesia Refinery is NSR Permit No. PSD-NM-0195-M37R3. In addition, Navajo requests NMED update the Title V permit to reflect regulatory updates and changes since the last Title V permit issuance/renewal. These permitting actions and regulatory updates are summarized below.

In addition to this cover letter, the application includes the following attachments:

Attachment 1 Application Form Table of Contents, NMED Form, and Supplemental Information - A detailed Table of Contents for the application form is provided at the beginning of Attachment 1. It is followed by the application form with supplemental information inserted where applicable. The detailed Table of Contents expands the Table of Contents included in the NMED Universal Air Quality Permit Application form (end of Section 1 of application form). Supplemental information includes emission calculations (end of Section 6) and regulatory applicability tables (end of Section 13) that were previously submitted as part of the most recent NSR permitting actions.

Attachment 2 Markup of Current Title V Operating Permit No. P051-R2 - To facilitate the changes to the permit, Navajo is providing an electronic markup of the permit with the requested changes in MS TrackChanges.

Navajo requests the NMED update the Title V permit to reflect the following NMED-approved permitting actions (as repeated in Section 3 of the application form):

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
(575) 748-3311 • <http://www.hollyfrontier.com>

1. **PSD-NM-0195-M37R3 KOH Manufacturing NSR Administrative Revision** - By this submittal, Navajo requested and NMED approved authorization for emissions from two new air emissions-generating activities which are exempt from construction permitting requirements per 20.2.72.202.B.(5) NMAC. As reflected in the application Table 2-B, these activities are Lime Handling (Unit No. LIME TRANSFER) and Lime Delivery Road (Unit No. LIME ROAD). These emission units do not have applicable requirements and meet the criteria of NMED Title V Insignificant Activity 1.a (i.e., have potential to emit not more than one ton per year of any regulated pollutant). Therefore with respect to the Title V permit, no changes are required.
2. **PSD-NM-0195-M37R2 Fuels Truck Loading Rack Vapor Combustion Unit NSR Technical Revision** - By this submittal, Navajo requested and NMED approved authorization for emissions from the addition of a Vapor Combustion Unit (TL-4 VCU) as an alternate control device for the reduction of emissions generated at the existing Fuels Truck Loading Rack (TL-4), and incorporation of revised truck loading throughput and control representations. The TL-4 VCU control device is used as an alternate control device to the existing Vapor Recovery Unit (TL-4 VRU), which serves as the primary control device. With respect to the Title V permit, this permitting action will be reflected as changes to the following as included in the electronic permit markup included with this application and referenced in Attachment 2:
 - Permit condition A102.C
 - Table 102.A: Total Potential Pollutant Emissions from Entire Facility
 - Table 105.A: Control Methods
 - Permit condition A106.I
 - Permit condition A210.C Equipment Specific Requirements for Loading Racks
 - Table 106.A Allowable Emission Limits
 - Table 106.G: Emission Limits for Refinery Non-Combustion Sources of Volatile Organic Compounds (VOCs)
3. **PSD-NM-0195-M37R1 Server Backup Generator and Propane Dryness Testing NSR Administrative Revision** - By this submittal, Navajo requested and NMED approved authorization for emissions from a new source and a new activity which are exempt from construction permitting requirements per 20.2.72.202.B NMAC.

As reflected in the application Table 2-B, the new activity is Propane Dryness Testing (Unit No. PROP TEST). It does not have applicable requirements and meets the criteria of NMED Insignificant Activity 1.a (i.e., has potential to emit not more than one ton per year of any regulated pollutant). Therefore with respect to the Title V permit, no changes are required for PROP TEST.

As reflected in the application Table 2-B, the new source is the Server Backup Generator (Unit No. G-0102). It is subject to 40 CFR Part 60 New Source Performance Standard Subpart IIII (NSPS IIII) and 40 CFR Part 63 Maximum Achievable Control Technology Subpart ZZZZ (MACT ZZZZ) and is therefore excluded from consideration as a NMED Title V Insignificant Activity. Accordingly with respect to the Title V permit, the new G-0102 engine will result in changes to the following as included in the electronic permit markup submitted with this application and referenced in Attachment 2:

 - Permit condition A102.C
 - Table 102.A: Total Potential Pollutant Emissions from Entire Facility
 - Permit condition A201.A and B
 - Table 103.J, Summary Applicability – Engines

- Table 104.A: Regulated Sources List
- Table 106.A Allowable Emission Limits

4. **PSD-NM-0195-M37 Debottleneck Project NSR Significant Revision** - By this submittal, Navajo requested and NMED approved authorization for emissions from process equipment modifications to increase production at the following units:

- Unit FUG-06-NH DU – Naphtha Hydrodesulfurization Unit
- Unit FUG-13-NH DU – Naphtha Hydrodesulfurization Unit
- Unit FUG-20-ISOM – BenFree Unit (previously identified as Isom Unit)
- Unit FUG-33-DIST HDU – Diesel Hydrodesulfurization Unit
- Additionally, routing of a stream from Unit 44 (Gas Oil Hydrotreater) to Unit 33.

In addition, the following changes to the NSR permit were implemented.

- Removed the following storage tanks: T-0013, T-0058, T-0404, T-0405, T-0409, T-0810, and T-0078
- Changed tank ID No. TK-NEWETHANOL to T-0451, and changed associated tank type from external floating roof tank to internal floating roof tank
- Changed tank ID No. TK- BIODIESEL to T-0452, and changed associated tank type from fixed roof tank to internal floating roof tank
- Removed SSM T-0078, SSM T-0079, SSM T-0737 and SSM T-1225. SSM tank emissions were included under ID “SSM Tanks” which was updated as part of the project
- Moved SSM Misc 1 for catalyst handling emissions from the Regulated Emission Sources (per application Table 2A) to the Exempted Equipment/Insignificant Activities (per application Table 2B)

With respect to the Title V permit, this permitting action will be reflected as changes to the following as included in the electronic permit markup submitted with this application and referenced in Attachment 2:

- Permit condition A102.C
- Table 102.A: Total Potential Pollutant Emissions from Entire Facility
- Permit conditions A107.D through F
- Permit condition A203.E
- Permit condition A204.D
- Permit condition A206.B
- Permit condition A209.A through D
- Table 103.B, Summary Applicability – Fugitives
- Table 103.C, Summary Applicability – Tanks
- Table 106.A Allowable Emission Limits
- Table 106.B(1) Internal Floating Roof Storage Tanks, Vapor Pressure Limitations for Refinery Non-Combustion Sources of Volatile Organic Compounds (VOC)
- Table 106.B(2) External Floating Roof Storage Tanks, Vapor Pressure Limitations for Refinery Non-Combustion Sources of Volatile Organic Compounds (VOC)
- Table 106.C Fixed Roof Storage Tanks, Vapor Pressure Limitations for Refinery Non-Combustion Sources of Volatile Organic Compounds (VOC)

- Table 106.D Storage Tank Throughput and Temperature Limits
- Table 106.E Storage Tank VOC and H₂S Emission Limits
- Table 106.F Fugitive Emissions from Equipment Leaks, Emission Limits for Refinery Non-Combustion Sources of Volatile Organic Compounds (VOC)
- Table 107.A Maintenance, Startup, and Shutdown Emission Limits

5. **PSD-NM-0195-M36 Prime G Project NSR Significant Revision** - By this submittal, Navajo requested and NMED approved authorization for emissions from a new Prime G operating unit. The project included:

- Installation of a reactor charge heater H-5401
- Installation of an external floating roof tank for off-spec material T-5401
- Additional piping component fugitive emissions
- Updating the emission calculations for the wastewater unit

With respect to the Title V permit, this permitting action will be reflected as changes to the following as included in the electronic permit markup submitted with this application and referenced in Attachment 2:

- Permit condition A102.C
- Table 102.A: Total Potential Pollutant Emissions from Entire Facility
- Permit condition A204.B
- Table 103.B, Summary Applicability – Fugitives
- Table 103.C, Summary Applicability – Tanks
- Table 103.E, Summary Applicability – Heaters and Boilers
- Table 104.A: Regulated Sources List
- Table 106.A Allowable Emission Limits
- Table 106.B(2) External Floating Roof Storage Tanks, Vapor Pressure Limitations for Refinery Non-Combustion Sources of Volatile Organic Compounds (VOC)
- Table 106.D Storage Tank Throughput and Temperature Limits
- Table 106.E Storage Tank VOC and H₂S Emission Limits
- Table 106.F Fugitive Emissions from Equipment Leaks, Emission Limits for Refinery Non-Combustion Sources of Volatile Organic Compounds (VOC)
- Table 106.I API Oil/Water Separators, Emission Limits for Refinery Non-Combustion Sources of Volatile Organic Compounds (VOC)

6. **PSD-NM-0195-M35R2 Wastewater Storage Tank T-7107 NSR Administrative Revision** - By this submittal, Navajo requested and NMED approved authorization for emissions from a new wastewater tank, T-7107, which is exempt from construction permitting requirements per 20.2.72.202.B.(2) NMAC. As reflected in the application Table 2-B, the tank does not have applicable requirements and meets the criteria of NMED Title V Insignificant Activity 1.b (i.e., has potential to emit not more than the lesser of one or the de minimis level of Hazardous Air Pollutant [HAP]). Therefore with respect to the Title V permit, no changes are required.
7. **Title V Operating Permit No. P051-R2M1 Owner/Permittee Name Change Administrative Revision** - By this submittal, Navajo requested and NMED approved the name change on the permit from Navajo Refining Company L.L.C. to HollyFrontier Navajo Refining LLC.

In addition, Navajo requests NMED correct a typographical error in the Title V permit as follows:

8. **FCC Regenerator NO_x Hourly Emission Limit** - Revise the FCC Regenerator NO_x hourly emission limit in Table 106.A to 34.9 lb/hr instead of the currently-listed 35.0 lb/hr, consistent with the Equipment Specific Requirement A211.A.(2)(a).

Further, Navajo requests NMED update the Title V permit to reflect the following regulatory updates and changes since the last Title V permit issuance/renewal (also, as repeated in Section 3 of the application form). These updates and changes are included in the electronic permit markup submitted with this application.

9. **SRU2 NSPS Ja Applicability** - Change the applicability for SRU2 from NSPS J to NSPS Ja (Equipment Specific Requirements A207.D, consistent with E of this condition for SRU3 (the two units recover sulfur from a common source of sour gas); make corresponding changes to Table 103.I in the permit).
10. **Repeal of 20.2.36 NMAC Petroleum Refinery Sulfur** - Remove or update the references to 20.2.36 NMAC which NMED repealed effective February 15, 2016.
11. **Repeal of 20.2.37 Petroleum Processing Facilities** - Remove or update the references to 20.2.37 NMAC which NMED repealed effective September 12, 2016.
12. **20.2.61 NMAC Applicability** - Due to the repeal of 20.2.37.202 NMAC Particulate Matter requirements, 20.2.61 NMAC Smoke and Visible Emissions requirements (specifically 20.2.61.109 opacity requirements) now apply to stationary combustion equipment, and we request that NMED update the Title V permit to reflect this.
13. **Refinery Sector Rule Applicability** - The detailed applicability sub-citations in the spreadsheets included in the electronic submittal accompanying this application address applicability determinations to date as related to the Refinery Sector Rule (RSR). The spreadsheets reflect NSPS J, NSPS Ja, MACT CC, and MACT UUU applicability determinations that have been required to be completed thus far under the RSR.

And finally, the following representations are included in this application but do not result in changes to the Title V permit (as repeated in Section 20 of the application form):

1. Updated and corrected Table 2-H Stack Exit Conditions
2. Updated Table 2-J: Fuel, to provide new information in new "Fuel Source" column and to add required information for the new Server Backup Generator
3. Updated Table 2-N: CEM Equipment
4. Updated Section 17 Compliance History

In accordance with 20.2.70.300 NMAC, enclosed are the appropriate NMED application forms with supporting documentation. It is our understanding a permit application filing fee is not required; rather processing of the Title V renewal application is funded by the annual Title V permit fees. Enclosed are:

1. An original signed and notarized application printed double-sided (head-to-toe) except for the Section 2 tables that are printed head-to-head. The application is two-hole punched and includes numbered tab separators.

Mr. Ted Schooley
New Mexico Environment Department

May 6, 2019
Page 6 of 6

2. A copy of the application printed double-sided but not hole-punched.
3. Two CD's with all the application electronic files, including a PDF file of the entire application.

We would like to thank you in advance for your review of this permit renewal application.

If you have any questions regarding the information presented in this application, please do not hesitate to contact Gabriela Mellace-Combs at (575) 748-6751 or Maria.Mellace-Combs@HollyFrontier.com, or Brian Gunzelman of Tascosa Alliance Company, our consultant on this project, at (817) 726-6949 or bgunzelman@tas-all.com.

Sincerely,



Scott M. Denton
Environmental Manager

cc: NMED: Melinda Owens, Title V Permit Program Manager, Major Source Permits Section, Air Quality Bureau, New Mexico Environment Department, 525 Camino de los Marquez, Suite 1, Santa Fe, NM 87505, (505) 476-4346, via email to Melinda.Owens@state.nm.us
HollyFrontier: P. Miller, G. Combs, T. Wheeler, S. Gokhale
Tascosa: Brian L. Gunzelman, P.E.

ATTACHMENT 1**Application Form Table of Contents, Form, and Supplemental Information****Title V Operating Permit No. P051-R3
Application for Permit Renewal**

Section 1: General Facility Information

Section 1-A: Company Information

Section 1-B: Current Facility Status

Section 1-C: Facility Input Capacity & Production Rate

Section 1-D: Facility Location Information

Section 1-E: Proposed Operating Schedule

Section 1-F: Other Facility Information

Section 1-G: Streamline Application

Section 1-H: Current Title V Information

Section 1-I – Submittal Requirements

Section 2: Tables

Table 2-A: Regulated Emission Sources

Table 2-B: Insignificant Activities OR Exempted Equipment

Table 2-C: Emissions Control Equipment

Table 2-D: Maximum Emissions

Table 2-E: Requested Allowable Emissions

Table 2-F: Add'l Emissions during Startup, Shutdown, and Routine Maintenance (SSM)

Table 2-G: Stack Exit and Fugitive Emission Rates for Special Stacks

Table 2-H: Stack Exit Conditions

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

Table 2-J: Fuel

Table 2-K: Liquid Data for Tanks Listed in Table 2-L

Table 2-L: Tank Data

Table 2-L2: Liquid Storage Tank Data Codes Reference Table

Table 2-M: Materials Processed and Produced

Table 2-N: CEM Equipment

Table 2-O: Parametric Emissions Measurement Equipment

Table 2-P: Greenhouse Gas Emissions

Section 3:	Application Summary
Section 4:	Process Flow Sheet
Section 5:	Plot Plan Drawn to Scale
Section 6:	All Calculations
Section 7:	Information Used to Determine Emissions
Section 8:	Map(s)
Section 9:	Proof of Public Notice
Section 10:	Written Description of the Routine Operations of the Facility
Section 11:	Source Determination
Section 12:	PSD Applicability Determination for All Sources & Special Requirements for a PSD Application
Section 13:	Discussion Demonstrating Compliance with Each Applicable State & Federal Regulation
Section 14:	Operational Plan to Mitigate Emissions
Section 15:	Alternative Operating Scenarios
Section 16:	Air Dispersion Modeling
Section 17:	Compliance Test History
Section 18:	Addendum for Streamline Applications (streamline applications only) Not Applicable. This application is not a streamline application.
Section 19:	Requirements for the Title V (20.2.70 NMAC) Program (Title V applications only)
Section 20:	Other Relevant Information
Section 21:	Addendum for Landfill Applications Not Applicable. This application is not a Landfill application.
Section 22:	Certification Page

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number ¹	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/ Reconstruction ²	Emissions vented to Stack #				
RW-4	Fixed Roof Tank	NA	NA	NA	200 bbl	200 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							6/1/1982	RW-4				
RW-5	Fixed Roof Tank	NA	NA	NA	200 bbl	200 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							1/1/1954	RW-5				
RW-6	Fixed Roof Tank	NA	NA	NA	200 bbl	200 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							1978	RW-6				
T-0013	Fixed Roof Tank	NA	NA	NA	265.8 bbl	265.8 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							6/12/1905	T-0013				
T-0040	Fixed Roof Tank	NA	NA	NA	730 bbl	730 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							<1973	T-0040				
T-0041	Fixed Roof Tank	NA	NA	NA	730 bbl	730 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							<1973	T-0041				
T-0049	Fixed Roof Tank	NA	NA	NA	667 bbl	667 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							1965	T-0049				
T-0055	Fixed Roof Tank	NA	NA	NA	11,300 bbl	11,300 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							1979	T-0055				
T-0058	Fixed Roof Tank	NA	NA	NA	5,000 bbl	5,000 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							<1973	T-0058				
T-0059	Fixed Roof Tank	NA	NA	NA	5,100 bbl	5,100 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							<1973	T-0059				
T-0061	Fixed Roof Tank	NA	NA	NA	10,500 bbl	10,500 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							<1973	T-0061				
T-0063	Fixed Roof Tank	NA	NA	NA	10,700 bbl	10,700 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							<1973	T-0063				
T-0065	Fixed Roof Tank	NA	NA	NA	10,500 bbl	10,500 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							1999	T-0065				
T-0075	Fixed Roof Tank	NA	NA	NA	18,900 bbl	18,900 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							2003	T-0075				
T-0081	Fixed Roof Tank	NA	NA	NA	100,000 bbl	100,000 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							7/2/1905	T-0081				
T-0082	Fixed Roof Tank	NA	NA	NA	60,000 bbl	60,000 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							7/2/1905	T-0082				
T-0110	Fixed Roof Tank	NA	NA	NA	57,900 bbl	57,900 bbl	NA	NA	40301099	☐ Existing (unchanged) ☐ New/Additional To Be Modified ☐ To be Removed Replacement Unit To be Replaced		
							1929	T-0110				

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Unit Number ¹	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/Reconstruction ²	Emissions vented to Stack #				
T-0400	Fixed Roof Tank	NA	NA	NA	96,300 bbl	96,300 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							1983	T-0400				
T-0404	Fixed Roof Tank	NA	NA	NA	9,900 bbl	9,900 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0404				
T-0405	Fixed Roof Tank	NA	NA	NA	5,200 bbl	5,200 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0405				
T-0409	Fixed Roof Tank	NA	NA	NA	25,100 bbl	25,100 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0409				
T-0410	Fixed Roof Tank	NA	NA	NA	35,700 bbl	35,700 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0410				
T-0418	Fixed Roof Tank	NA	NA	NA	19,600 bbl	19,600 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0418				
T-0419	Fixed Roof Tank	NA	NA	NA	10,800 bbl	10,800 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0419				
T-0420	Fixed Roof Tank	NA	NA	NA	10,400 bbl	10,400 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0420				
T-0422	Fixed Roof Tank	NA	NA	NA	10,400 bbl	10,400 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0422				
T-0423	Fixed Roof Tank	NA	NA	NA	10,500 bbl	10,500 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1970	T-0423				
T-0431	Fixed Roof Tank	NA	NA	NA	56,500 bbl	56,500 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0431				
T-0432	Fixed Roof Tank	NA	NA	NA	55,000 bbl	55,000 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1972	T-0432				
T-0433	Fixed Roof Tank	NA	NA	NA	79,900 bbl	79,900 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0433				
T-0434	Fixed Roof Tank	NA	NA	NA	78,400 bbl	78,400 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							6/1/1905	T-0434				
T-0438	Fixed Roof Tank	NA	NA	NA	54,200 bbl	54,200 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							6/1/1978	T-0438				
T-0810	Fixed Roof Tank	NA	NA	NA	150 bbl	150 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0810				
T-0814	Fixed Roof Tank	NA	NA	NA	11,200 bbl	11,200 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							2005	T-0814				
T-0815	Fixed Roof Tank	NA	NA	NA	85,250 bbl	85,250 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							2005	T-0815				

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							Date of Construction/Reconstruction ²	Emissions vented to Stack #				
T-0838	Fixed Roof Tank	NA	NA	NA	29,400 bbl	29,400 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							4/1/1977	T-0838				
T-1227	Fixed Roof Tank	NA	NA	NA	30,000 bbl	30,000 bbl	NA	NA	40301099	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							8/19/2008	T-1227				
T-0011	Internal Floating Roof Tank	NA	NA	NA	32,600 bbl	32,600 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0011				
T-0012	Internal Floating Roof Tank	NA	NA	NA	32,300 bbl	32,300 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0012				
T-0056	Internal Floating Roof Tank	NA	NA	NA	10,800 bbl	10,800 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0056				
T-0106	Internal Floating Roof Tank	NA	NA	NA	24,800 bbl	24,800 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1971	T-0106				
T-0107	Internal Floating Roof Tank	NA	NA	NA	25,000 bbl	25,000 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1971	T-0107				
T-0108	Internal Floating Roof Tank	NA	NA	NA	22,900 bbl	22,900 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1951	T-0108				
T-0109	Internal Floating Roof Tank	NA	NA	NA	22,300 bbl	22,300 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1971	T-0109				
T-0111	Internal Floating Roof Tank	NA	NA	NA	9,100 bbl	9,100 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0111				
T-0112	Internal Floating Roof Tank	NA	NA	NA	10,400 bbl	10,400 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0112				
T-0124	Internal Floating Roof Tank	NA	NA	NA	6,200 bbl	6,200 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							6/3/1905	T-0124				
T-0413	Internal Floating Roof Tank	NA	NA	NA	21,900 bbl	21,900 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							1960	T-0413				
T-0415	Internal Floating Roof Tank	NA	NA	NA	29,900 bbl	29,900 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							1953	T-0415				
T-0417	Internal Floating Roof Tank	NA	NA	NA	9,300 bbl	9,300 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							<1973	T-0417				
T-0439	Internal Floating Roof Tank	NA	NA	NA	108,000 bbl	108,000 bbl	NA	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							11/1/1978	T-0439				
T-0451 (formerly TK-NEWETHANOL)	Internal Floating Roof Tank	NA	NA	NA	6,900 bbl	6,900 bbl	2015	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
							2015	T-0451 (formerly TK-NEWETHANOL)				

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Unit Number ¹	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity ³ (Specify Units)	Requested Permitted Capacity ³ (Specify Units)	Date of Manufacture ²	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴	Replacing Unit No.
							Date of Construction/Reconstruction ²	Emissions vented to Stack #				
T-0452 (formerly TK-BIODIESEL)	Internal Floating Roof Tank	NA	NA	NA	6,900 bbl	6,900 bbl	2015	NA	40301150	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0057	External Floating Roof Tank	NA	NA	NA	50,400 bbl	50,400 bbl	2015	T-0452 (formerly TK-BIODIESEL)	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0078	External Floating Roof Tank	NA	NA	NA	50,000 bbl	50,000 bbl	NA	NA	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0079	External Floating Roof Tank	NA	NA	NA	80,000 bbl	80,000 bbl	NA	NA	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0117	External Floating Roof Tank	NA	NA	NA	14,000 bbl	14,000 bbl	9/7/2008	T-0079	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0401	External Floating Roof Tank	NA	NA	NA	53,000 bbl	53,000 bbl	1960	T-0117	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0402	External Floating Roof Tank	NA	NA	NA	53,000 bbl	53,000 bbl	NA	NA	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0411	External Floating Roof Tank	NA	NA	NA	52,000 bbl	52,000 bbl	1982	T-0401	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0412	External Floating Roof Tank	NA	NA	NA	52,000 bbl	52,000 bbl	NA	NA	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0435	External Floating Roof Tank	NA	NA	NA	5,000 bbl	5,000 bbl	1983	T-0402	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0437	External Floating Roof Tank	NA	NA	NA	85,000 bbl	85,000 bbl	NA	NA	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0450	External Floating Roof Tank	NA	NA	NA	80,000 bbl	80,000 bbl	11/1/1975	T-0437	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0737	External Floating Roof Tank	NA	NA	NA	20,000 bbl	20,000 bbl	6/19/1905	T-0450	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0802	External Floating Roof Tank	NA	NA	NA	10,000 bbl	10,000 bbl	NA	NA	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-5401	External Floating Roof Tank	NA	NA	NA	65,000 bbl	65,000 bbl	2016	NA	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0830	External Floating Roof Tank	NA	NA	NA	100,000 bbl	100,000 bbl	2016	T-5401	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	
T-0834	External Floating Roof Tank	NA	NA	NA	40,000 bbl	40,000 bbl	NA	NA	40301130	Existing (unchanged) New/Additional To Be Modified	To be Removed Replacement Unit To be Replaced	

Table 2-L: Tank Data

Include appropriate tank-flashing modeling input data. Use an addendum to this table for unlisted data categories. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.
See reference Table 2-L2. Note: 1.00 bbl = 10.159 M3 = 42.0 gal

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M ³)			Roof	Shell			
RW-4	6/1/1982	High Vapor Pressure	NA	FX	200		1.8	0.9	AS	AS	Good	N/A	N/A
RW-5	1/1/1954	High Vapor Pressure	NA	FX	200		3.7	1.6	WH	WH	Good	N/A	N/A
RW-6	1978	High Vapor Pressure	NA	FX	200		1.8	0.9	Brown	Brown	Good	N/A	N/A
T-0040	<1973	Low Vapor Pressure	NA	FX	730		2.7	11.0	WH	WH	Good	N/A	N/A
T-0041	<1973	Low Vapor Pressure	NA	FX	730		2.7	11.0	WH	WH	Good	N/A	N/A
T-0049	1965	Moderate Vapor Pressure	NA	FX	667		3.0	1.5	WH	WH	Good	N/A	N/A
T-0055	1979	Low Vapor Pressure	NA	FX	11,300		14.6	5.6	WH	WH	Good	N/A	N/A
T-0059	<1973	Low Vapor Pressure	NA	FX	5,100		10.7	4.7	BL	BL	Good	N/A	N/A
T-0061	<1973	Low Vapor Pressure	NA	FX	10,500		15.2	4.7	BL	BL	Good	N/A	N/A
T-0063	<1973	Low Vapor Pressure	NA	FX	10,700		15.5	4.7	BL	BL	Good	N/A	N/A
T-0065	1999	Low Vapor Pressure	NA	FX	10,500		15.2	4.7	BL	BL	Good	N/A	N/A
T-0075	2003	Low Vapor Pressure	NA	FX	18,900		19.8	5.1	BL	BL	Good	N/A	N/A
T-0081	2010	Low Vapor Pressure	NA	FX	100,000		42.7	6.5	AS	AS	Good	N/A	N/A
T-0082	2010	Low Vapor Pressure	NA	FX	60,000		33.1	6.4	AS	AS	Good	N/A	N/A
T-0110	1929	Low Vapor Pressure	NA	FX	57,900		32.9	5.7	WH	WH	Good	N/A	N/A
T-0400	1983	Low Vapor Pressure	NA	FX	96,300		36.6	7.7	BL	BL	Good	N/A	N/A
T-0410	<1973	Low Vapor Pressure	NA	FX	35,700		24.1	6.3	WH	WH	Good	N/A	N/A
T-0418	<1973	Low Vapor Pressure	NA	FX	19,600		20.4	6.5	WH	WH	Good	N/A	N/A
T-0419	<1973	Low Vapor Pressure	NA	FX	10,800		16.2	4.1	WH	WH	Good	N/A	N/A
T-0420	<1973	Low Vapor Pressure	NA	FX	10400		15.2	4.7	WH	WH	Good	N/A	N/A
T-0422	<1973	Low Vapor Pressure	NA	FX	10,400		15.2	4.7	WH	WH	Good	N/A	N/A
T-0423	<1970	Low Vapor Pressure	NA	FX	10,500		15.2	4.7	WH	WH	Good	N/A	N/A
T-0431	<1973	Low Vapor Pressure	NA	FX	56,500		33.2	5.2	WH	WH	Good	N/A	N/A
T-0432	<1972	Low Vapor Pressure	NA	FX	55,000		33.2	5.2	WH	WH	Good	N/A	N/A
T-0433	<1973	Low Vapor Pressure	NA	FX	79,900		35.7	6.8	WH	WH	Good	N/A	N/A
T-0434	1979	Low Vapor Pressure	NA	FX	78,400		35.7	6.8	WH	WH	Good	N/A	N/A
T-0438	6/1/1978	Low Vapor Pressure	NA	FX	54,200		27.4	7.6	BL	BL	Good	N/A	N/A
T-0814	2005	Low Vapor Pressure	NA	FX	11,200		15.2	5.0	AS	AS	Good	N/A	N/A
T-0815	2005	Low Vapor Pressure	NA	FX	85,250		42.1	5.3	WH	WH	Good	N/A	N/A
T-0838	4/1/1977	Low Vapor Pressure	NA	FX	29,400		22.6	6.3	WH	WH	Good	N/A	N/A
T-1227	8/19/2008	Low Vapor Pressure	NA	FX	30,000		23.5	6.3	AS	AS	Good	N/A	N/A
T-0011	<1973	High Vapor Pressure	3C	IF	32,600		27.1	NA	WH	WH	Good	N/A	N/A
T-0012	<1973	High Vapor Pressure	3C	IF	32,300		26.8	NA	WH	WH	Good	N/A	N/A
T-0056	<1973	High Vapor Pressure	3C	IF	10,800		14.6	NA	WH	WH	Good	N/A	N/A
T-0106	<1971	High Vapor Pressure	3C	IF	24,800		20.4	NA	WH	WH	Good	N/A	N/A
T-0107	<1971	High Vapor Pressure	3C	IF	25,000		20.4	NA	WH	WH	Good	N/A	N/A

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Table 2-L: Page 2

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FLOATING ROOF TANK SSM POTENTIAL TO EMIT

Variable	Description	Units	Value
I	Solar insolation factor	Btu/ft ² -day	2441
α	Paint Solar Absorbance		0.17
P _A	Atmospheric Pressure	psia	12.9
T _{AA}	Annual Average Temperature	°F	540.7
T _{AM}	Daily Maximum Ambient Temperature	°R	554.6
T _{AN}	Daily Minimum Ambient Temperature	°R	526.7
ΔT _A	Daily average ambient temperature range	°R	27.9
T _{LA}	Daily average liquid surface temp	°R	543.9
S or K _S	Saturation Factor	-	0.6

a. Data for Roswell, NM in July.

Tank ID	Type of Tank	D	H _L	Material Stored	P _{VA}	Liquid Density	M _V	V _V	K _E	L _{SL}	Refloating Losses	Maximum VOC Emissions
		Tank Diameter	Leg Height		VP at Daily Max Liq Temp		Vapor Molecular Weight	Vapor Space Volume	Vapor Expansion Factor	Roof Landing Losses		
		(ft)	(ft)		(psia)		(lb/gal)	(lb/lbmol)	(ft ³)	(lbs/day)		
T-0011	IFR	89	4.5	Gasolines	8.1	5.6	66	28,000	0.23536	363.52	1544.54	64.36
T-0012	IFR	88	4.5	Gasolines	8.1	5.6	66	27,370	0.23536	355.34	1509.79	62.91
T-0056	IFR	48	4.5	Naphtha	2.3	6.4	90	8,140	0.11735	20.09	171.17	7.13
T-0106	IFR	67	4.5	Sour Water	1.0	8.34	130	15,870	0.05829	12.36	212.09	8.84
T-0107	IFR	67	4.5	Gasolines	8.1	5.6	66	15,870	0.23536	206.04	875.42	36.48
T-0108	IFR	67	4.5	Gasolines	8.1	5.6	66	15,870	0.23536	206.04	875.42	36.48
T-0109	IFR	67	4.5	Gasolines	8.1	5.6	66	15,870	0.23536	206.04	875.42	36.48
T-0111	IFR	49	4.5	Gasolines	8.1	5.6	66	8,490	0.23536	110.23	468.33	19.51
T-0112	IFR	49	4.5	Gasolines	8.1	5.6	66	8,490	0.23536	110.23	468.33	19.51
T-0124	IFR	67	4.5	Gasolines	8.1	5.6	66	15,870	0.23536	206.04	875.42	36.48
T-0413	IFR	67	4.5	Distillates	0.0	7.1	130	15,870	0.05883	0.16	2.74	0.11
T-0415	IFR	50	4.5	Gasolines	8.1	5.6	66	8,840	0.23536	114.77	487.63	20.32
T-0417	IFR	50	4.5	Gasolines	8.1	5.6	66	8,840	0.23536	114.77	487.63	20.32
T-0439	IFR	130	4.5	Naphtha	2.3	6.4	90	59,730	0.11735	147.39	1255.98	52.33
T-0057	EFR	90	4.5	Naphtha	2.3	6.4	90	28,630	0.00000	223.52	602.02	25.08
T-0079	EFR	125	4.5	Gasolines	8.1	5.6	66	55,220	0.00000	1146.09	3046.05	126.92
T-0117	EFR	48	4.5	Gasolines	8.1	5.6	66	8,140	0.00000	440.10	449.02	18.71
T-0401	EFR	90	4.5	Gasolines	8.1	5.6	66	28,630	0.00000	825.19	1579.29	65.80
T-0402	EFR	90	4.5	Gasolines	8.1	5.6	66	28,630	0.00000	825.19	1579.29	65.80
T-0411	EFR	100	4.5	Gasolines	8.1	5.6	66	35,340	0.00000	916.88	1949.43	81.23
T-0412	EFR	100	4.5	Gasolines	8.1	5.6	66	35,340	0.00000	916.88	1949.43	81.23
T-0435	EFR	30	4.5	Sour Water	8.8	8.34	58	3,180	0.00000	274.56	166.13	11.44
T-0437	EFR	120	4.5	Crude Oil	8.8	7	58	50,890	0.00000	1098.25	2658.65	110.78
T-0450	EFR	120	4.5	Naphtha	2.3	6.4	90	50,890	0.00000	298.03	1070.10	44.59
T-0737	EFR	63	4.5	Sour Water	0.0	8.34	130	14,030	0.00000	1.17	2.43	0.10
T-0802	EFR	45	4.5	Sour Water	0.0	8.34	130	7,160	0.00000	0.84	1.24	0.05
T-0830	EFR	150	4.5	Slop	1.0	8.34	130	79,520	0.00000	224.18	1062.72	44.28
T-0834	EFR	65	4.5	Distillates	0.0	7.1	130	14,930	0.00000	1.21	2.58	0.11
T-0835	EFR	48	4.5	Distillates	0.0	7.1	130	8,140	0.00000	0.89	1.41	0.06
T-1225	EFR	150	4.5	Crude Oil	8.8	7	58	79,520	0.00000	1372.82	4154.37	173.10

Subtotal (lb): 10,738.8 30,384.1
Subtotal (ton): 5.37 15.19
Annual (ton/yr): 10.59 assuming average of
51.5% tanks landed per
year

HAP & GHG Emission Estimate

HAP	Max Vapor	Emission	
	wt%	lb/hr	ton/yr
Benzene	3.22%	5.57	0.34
Ethylbenzene	0.39%	0.67	0.04
n-Hexane	9.75%	16.88	1.03
Toluene	1.03%	1.78	0.11

Delayed Repairs Report

HollyFrontier Artesia

From: 9/1/2019 To: 10/3/2019, All Records

Tag:	Date Delayed:	Expected Date of Repair:	Due Date:	Authorized By:	Reason:	Repaired?:
Unit: 08-TK-FARM Area: MACT Equipment: MACT						
29082-000	2/13/2018	12/31/2019	2/13/2023	JASON VILLA / RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 09-N ALKY Area: 09-D-642 Equipment: 09-D-642/643						
1366-000	8/28/2018	12/1/2019	8/28/2023	JASON REYES / RAY SMALTS	EQUIPMENT IS ISOLATED FROM THE PROCESS AND DOES NO	No
Unit: 09-N ALKY Area: NSPS Equipment: NSPS						
1696-000	8/23/2018	12/1/2019	8/23/2023	JASON REYES / RAY SMALTS	EQUIPMENT IS ISOLATED FROM THE PROCESS AND DOES NO	No
1842-000	2/21/2019	12/31/2019	2/21/2024	JASON REYES & RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 10-FCCU Area: 10 D-502 Equipment: 10 D-502						
166000-000	1/29/2019	12/31/2019	1/29/2024	RAY SMALTS / JESUS ACOSTA	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 13-NHD Area: NSPS Equipment: NSPS						
2820-000	11/22/2017	12/31/2019	11/22/2022	ROBERT GURROLA / RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
2898-000	11/22/2017	12/31/2019	11/22/2022	ROBERT GURROLA / RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 13-NHD Area: PR SW H-9 Equipment: PR SW H-9						
77709-000	9/19/2017	12/31/2019	9/19/2022	STACI HAMMOND/TIM DUNCAN	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 30-SRU #2 Area: NSPS Equipment: NSPS						
2720-000	5/13/2009	12/31/2019	5/13/2014	DANNY PANZER/AARONS TRANGE	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No

Delayed Repairs Report

HollyFrontier Artesia

From: 9/1/2019 To: 10/3/2019, All Records

Tag:	Date Delayed:	Expected Date of Repair:	Due Date:	Authorized By:	Reason:	Repaired?:
Unit: 31-SRU #3-CVS Area: H-3101 Equipment: H-3101						
20159-000	10/23/2018	12/31/2019	10/23/2023	ROBERT GURROLA / RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 35-SAT-GAS Area: E/W PR Equipment: E/W PR						
3839-000	1/8/2014	12/31/2019	1/8/2020	DANNY PANZER / RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 35-SAT-GAS Area: N/S PR Equipment: N/S PR						
3751-000	3/26/2015	12/31/2019	3/26/2020	RAY SMALTS/DAVID HAMMOND	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 35-SAT-GAS Area: PMP-ALLY Equipment: PMP-ALLY						
3349-000	11/24/2018	12/31/2019	11/24/2023	TODD BARELA / RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
3354-000	11/24/2018	12/31/2019	11/24/2023	TODD BARELA / RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 35-SAT-GAS Area: W-58 Equipment: W-58						
3695-000	3/26/2015	12/31/2019	3/26/2020	RAY SMALTS/DAVID HAMMOND	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
3707-000	3/26/2015	12/31/2019	3/26/2020	RAY SMALTS /DAVID HAMMOND	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 35-SAT-GAS Area: W-60 Equipment: W-60						
3655-000	6/18/2015	12/31/2019	6/18/2020	DAIVD HAMMOND/RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 35-SAT-GAS Area: X-217 Equipment: X-217						
3577-000	3/26/2015	12/31/2019	3/26/2020	RAY SMALTS/DAVID HAMMOND	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No

Delayed Repairs Report

HollyFrontier Artesia

From: 9/1/2019 To: 10/3/2019, All Records

Tag:	Date Delayed:	Expected Date of Repair:	Due Date:	Authorized By:	Reason:	Repaired?:
Unit: 41-PBC Area: 41 W-113 Equipment: 41 W-113						
4117A-000	5/14/2019	12/31/2019	5/14/2024	TODD BARELA / RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
4125-000	5/14/2019	12/31/2019	5/14/2024	ROMAN AGULAR / RAY SMALTS	EQUIPMENT IS ISOLATED FROM THE PROCESS AND DOES NO	No
Unit: 44-DH DU Area: 44 C-421 Equipment: 44 C-421						
1478-000	5/1/2019	12/31/2019	5/1/2024	JIM MCFATRIDGE/RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
1489-000	5/1/2019	12/31/2019	5/1/2024	JIM MCFATRIDGE / RAY SMALTS	REPAIR IS TECHNICALLY INFEASIBLE WITHOUT A PROCESS	No
Unit: 44-DH DU Area: 44 D-478 Equipment: 44 D-478						
1158-000	5/12/2017	12/31/2019	5/12/2022	ERIC HARDEN/ RAY SMALTS	EQUIPMENT IS ISOLATED FROM THE PROCESS AND DOES NO	No

 Signature of Owner or Operator

Responsible for Delay of Repair Decision

Inspection History

HollyFrontier Artesia

From: 1/1/2016 To: 12/31/2019, All Inspections Under NSPS - VVa/GGGA

Unit: 30-SRU #2

Area: NSPS

Equipment: NSPS

Tag:	Component Type:	Location Description:	Size:	Service:	Inspection:			Repair:	ReInspection:		Applicable Leak Std.		Taken Out of Service:
					Date & Time:	PPM:	DPM:	Date & Time:	Date & Time:	PPM:	PPM:	DPM:	
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	1/11/2016 4:06:46 PM	814	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	2/17/2016 2:59:05 PM	863	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	3/16/2016 3:35:20 PM	1362	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	4/5/2016 2:38:28 PM	998	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	5/25/2016 9:09:17 AM	742	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	7/11/2016 1:34:37 PM	17	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	8/3/2016 10:13:53 AM	2	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	9/8/2016 10:28:39 AM	262	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	10/14/2016 8:17:05 AM	190	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	11/7/2016 2:36:40 PM	520	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	12/21/2016 2:25:16 PM	677	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	1/12/2017 9:03:57 AM	660	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	2/13/2017 10:28:51 AM	557	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	3/24/2017 11:02:28 AM	6266	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	4/25/2017 10:51:38 AM	4226	0	None	None	N/A	500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	5/31/2017 8:13:57 AM	4498	0	None	None	N/A	500	1	N

Inspection History

HollyFrontier Artesia

From: 1/1/2016 To: 12/31/2019, All Inspections Under NSPS - VVa/GGGa

Unit: 30-SRU #2

Area: NSPS

Equipment: NSPS

Tag:	Component Type:	Location Description:	Size:	Service:	Inspection:			Repair:	ReInspection:			Applicable Leak Std.		Taken Out of Service:
					Date & Time:	PPM:	DPM:		Date & Time:	PPM:	DPM:	PPM:	DPM:	
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	6/2/2017 11:26:02 AM	1401	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	6/8/2017 2:54:05 PM	16400	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	7/26/2017 9:59:13 AM	127700	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	9/13/2017 2:45:52 PM	27400	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	10/30/2017 3:21:37 PM	4584	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	11/7/2017 11:56:37 AM	5964	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	12/12/2017 9:33:08 AM	10700	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	1/10/2018 3:08:12 PM	30500	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	2/8/2018 8:52:03 AM	6694	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	3/9/2018 11:06:17 AM	20	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	4/20/2018 8:40:14 AM	500000	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	5/15/2018 11:09:03 AM	6081	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	6/11/2018 9:59:04 AM	6580	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	7/30/2018 11:11:25 AM	1922	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	8/2/2018 9:25:17 AM	5865	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	9/19/2018 8:00:44 AM	7720	0	None	None	N/A		500	1	N

Inspection History

HollyFrontier Artesia

From: 1/1/2016 To: 12/31/2019, All Inspections Under NSPS - VVa/GGGa

Unit: 30-SRU #2

Area: NSPS

Equipment: NSPS

Tag:	Component Type:	Location Description:	Size:	Service:	Inspection:			Repair:	ReInspection:			Applicable Leak Std.		Taken Out of Service:
					Date & Time:	PPM:	DPM:		Date & Time:	PPM:	DPM:	PPM:	DPM:	
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	10/9/2018 2:05:00 PM	8866	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	11/2/2018 10:41:52 AM	12600	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	12/10/2018 1:43:46 PM	4722	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	1/15/2019 11:14:18 AM	8617	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	2/15/2019 11:26:47 AM	3413	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	3/21/2019 1:41:29 PM	2837	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	4/15/2019 9:21:50 AM	21300	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	5/2/2019 8:46:10 AM	6999	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	6/10/2019 2:50:37 PM	559	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	7/26/2019 7:39:05 AM	1764	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	8/5/2019 2:24:24 PM	720	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	8/29/2019 11:04:24 AM	2768	0	None	None	N/A		500	1	N
2720-000	VALVE	FG LOOP NW D-469 DRN NW 12.1	0.75	GAS/VAPOR	9/18/2019 3:03:39 PM	602		None	None	N/A		500	1	N

2018 API Carbon Canister Monitoring for Month:

January

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Jan	137.0	10.0	10.0	5.0	6.0	19.0	12.5	0.0	96.35%	18.0	7.0	4.0	2.0	9.0	5.5	0.0	77.78%	50.00	500	Oni Ruiz
2-Jan	56.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	98.21%	6.0	1.0	1.0	4.0	5.0	4.5	0.0	83.33%	50.00	500	Israel Estrella
3-Jan	89.0	2.0	2.0	1.0	1.0	8.0	4.5	0.0	98.88%	28.0	10.0	6.0	4.0	16.0	10.0	0.0	78.57%	50.00	500	Eduardo Chavez
4-Jan	12.0	3.0	2.0	2.0	2.0	5.0	3.5	0.0	83.33%	3.0	2.0	2.0	1.0	2.0	1.5	0.5	33.33%	50.00	500	Jewel Husselman
5-Jan	4.0	2.0	2.0	1.0	4.0	6.0	5.0	0.0	75.00%	8.0	8.0	2.0	3.0	4.0	3.5	0.0	75.00%	50.00	500	Jewel Husselman
6-Jan	17.0	3.0	3.0	3.0	4.0	8.0	6.0	0.0	82.35%	20.0	6.0	5.0	11.0	50.0	30.5	0.0	75.00%	50.00	500	Theo Rodriguez
7-Jan	245.0	2.0	2.0	3.0	5.0	18.0	11.5	0.0	98.78%	8.0	4.0	4.0	3.0	10.0	6.5	0.0	50.00%	50.00	500	Theo Rodriguez
8-Jan	103.0	6.0	4.0	3.0	7.0	10.0	8.5	0.0	97.09%	12.0	6.0	4.0	24.0	72.0	48.0	0.0	66.67%	50.00	500	Jewel Husselman
9-Jan	272.0	5.0	5.0	3.0	14.0	19.0	16.5	0.0	98.90%	20.0	10.0	9.0	13.0	19.0	16.0	0.0	55.00%	50.00	500	Jewel Husselman
10-Jan	90.0	6.0	6.0	4.0	7.0	15.0	11.0	0.0	95.56%	20.0	8.0	6.0	8.0	12.0	10.0	0.0	70.00%	50.00	500	Jewel Husselman
11-Jan	4.0	3.0	3.0	1.0	4.0	7.0	5.5	0.0	75.00%	36.0	3.0	2.0	1.0	6.0	3.5	0.0	94.44%	50.00	500	Jewel Husselman
12-Jan	7.0	4.0	3.0	3.0	5.0	6.0	5.5	0.0	57.14%	24.0	4.0	3.0	7.0	12.0	9.5	0.0	87.50%	50.00	500	Jewel Husselman
13-Jan	6.0	4.0	3.0	1.0	5.0	7.0	6.0	0.0	83.33%	20.0	5.0	4.0	6.0	8.0	7.0	0.0	80.00%	50.00	500	Jewel Husselman
14-Jan	30.0	4.0	4.0	4.0	4.0	6.0	5.0	0.0	86.67%	17.0	3.0	4.0	4.0	6.0	5.0	0.0	76.47%	50.00	500	Jewel Husselman
15-Jan	112.0	8.0	8.0	5.0	3.0	12.0	7.5	0.0	95.54%	23.0	11.0	4.0	6.0	24.0	15.0	0.0	82.61%	50.00	500	Oni Ruiz
16-Jan	61.0	5.0	5.0	3.0	3.0	6.0	4.5	0.0	95.08%	16.0	10.0	6.0	7.0	12.0	9.5	0.0	62.50%	50.00	500	Eduardo Chavez
17-Jan	78.0	6.0	6.0	4.0	2.0	12.0	7.0	0.0	94.87%	12.0	7.0	5.0	4.0	9.0	6.5	0.0	58.33%	50.00	500	Eduardo Chavez
18-Jan	125.0	4.0	3.0	3.0	5.0	7.0	6.0	0.0	97.60%	15.0	7.0	5.0	11.0	15.0	13.0	0.0	66.67%	50.00	500	Israel Estrella
19-Jan	455.0	2.0	2.0	2.0	4.0	5.0	4.5	0.0	99.56%	19.0	7.0	8.0	17.0	18.0	17.5	0.0	57.89%	50.00	500	Israel Estrella
20-Jan	236.0	10.0	10.0	5.0	6.0	15.0	10.5	0.0	97.88%	26.0	12.0	3.0	7.0	19.0	13.0	0.0	88.46%	50.00	500	Oni Ruiz
21-Jan	119.0	8.0	8.0	3.0	4.0	10.0	7.0	0.0	97.48%	17.0	9.0	5.0	2.0	11.0	6.5	0.0	70.59%	50.00	500	Oni Ruiz
22-Jan	126.0	4.0	4.0	4.0	3.0	6.0	4.5	0.0	96.83%	19.0	4.0	3.0	5.0	8.0	6.5	0.0	84.21%	50.00	500	Jewel Husselman
23-Jan	109.0	5.0	4.0	4.0	1.0	4.0	2.5	1.5	96.33%	12.0	4.0	3.0	2.0	5.0	3.5	0.0	75.00%	50.00	500	Jewel Husselman
24-Jan	244.0	6.0	6.0	3.0	2.0	16.0	9.0	0.0	98.77%	31.0	12.0	9.0	8.0	21.0	14.5	0.0	70.97%	50.00	500	Eduardo Chavez
25-Jan	390.0	7.0	5.0	4.0	6.0	8.0	7.0	0.0	98.97%	13.0	4.0	4.0	6.0	24.0	15.0	0.0	69.23%	50.00	500	Homer Trujillo
26-Jan	400.0	9.0	7.0	4.0	3.0	5.0	4.0	0.0	99.00%	16.0	7.0	6.0	3.0	56.0	29.5	0.0	62.50%	50.00	500	Homer Trujillo
27-Jan	112.0	9.0	9.0	5.0	4.0	11.0	7.5	0.0	95.54%	16.0	8.0	4.0	3.0	15.0	9.0	0.0	75.00%	50.00	500	Oni Ruiz
28-Jan	233.0	10.0	10.0	4.0	5.0	21.0	13.0	0.0	98.28%	28.0	11.0	5.0	4.0	17.0	10.5	0.0	82.14%	50.00	500	Oni Ruiz
29-Jan	539.0	4.0	3.0	3.0	3.0	7.0	5.0	0.0	99.44%	11.0	5.0	4.0	7.0	36.0	21.5	0.0	63.64%	50.00	500	Carlos Martinez
30-Jan	211.0	5.0	5.0	5.0	9.0	12.0	10.5	0.0	97.63%	24.0	4.0	4.0	5.0	22.0	13.5	0.0	83.33%	50.00	500	Homer Trujillo
31-Jan	340.0	8.0	8.0	6.0	7.0	17.0	12.0	0.0	98.24%	15.0	5.0	4.0	3.0	15.0	9.0	0.0	73.33%	50.00	500	Homer Trujillo

2018 API Carbon Canister Monitoring for Month:

February

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Feb	318.0	8.0	8.0	6.0	2.0	10.0	6.0	0.0	98.11%	26.0	13.0	4.0	6.0	14.0	10.0	0.0	84.62%	50.00	500	Eduardo Chavez
2-Feb	338.0	9.0	9.0	6.0	5.0	12.0	8.5	0.0	98.22%	23.0	14.0	5.0	4.0	13.0	8.5	0.0	78.26%	50.00	500	Oni Ruiz
3-Feb	330.0	8.0	8.0	4.0	3.0	9.0	6.0	0.0	98.79%	24.0	12.0	5.0	5.0	13.0	9.0	0.0	79.17%	50.00	500	Oni Ruiz
4-Feb	357.0	10.0	10.0	5.0	4.0	16.0	10.0	0.0	98.60%	21.0	10.0	3.0	5.0	13.0	9.0	0.0	85.71%	50.00	500	Oni Ruiz
5-Feb	457.0	8.0	5.0	4.0	2.0	4.0	3.0	1.0	99.12%	9.0	3.0	2.0	2.0	4.0	3.0	0.0	77.78%	50.00	500	Jewel Husselman
6-Feb	383.0	3.0	3.0	3.0	2.0	5.0	3.5	0.0	99.22%	10.0	3.0	2.0	6.0	14.0	10.0	0.0	80.00%	50.00	500	Jewel Husselman
7-Feb	255.0	4.0	4.0	4.0	3.0	12.0	7.5	0.0	98.43%	12.0	5.0	4.0	10.0	37.0	23.5	0.0	66.67%	50.00	500	Carlos Martinez
8-Feb	273.0	4.0	4.0	4.0	5.0	8.0	6.5	0.0	98.53%	10.0	7.0	6.0	10.0	15.0	12.5	0.0	40.00%	50.00	500	Jewel Husselman
9-Feb	279.0	4.0	4.0	5.0	2.0	6.0	4.0	1.0	98.21%	11.0	5.0	4.0	4.0	7.0	5.5	0.0	63.64%	50.00	500	Jewel Husselman
10-Feb	249.0	3.0	3.0	3.0	1.0	6.0	3.5	0.0	98.80%	9.0	4.0	3.0	5.0	8.0	6.5	0.0	66.67%	50.00	500	Carlos Martinez
11-Feb	324.0	9.0	9.0	4.0	2.0	7.0	4.5	0.0	98.77%	22.0	11.0	3.0	5.0	13.0	9.0	0.0	86.36%	50.00	500	Oni Ruiz
12-Feb	397.0	9.0	9.0	5.0	2.0	9.0	5.5	0.0	98.74%	15.0	9.0	5.0	4.0	12.0	8.0	0.0	66.67%	50.00	500	Oni Ruiz
13-Feb	365.0	5.0	4.0	3.0	3.0	4.0	3.5	0.0	99.18%	53.0	5.0	4.0	8.0	14.0	11.0	0.0	92.45%	50.00	500	Homer Trujillo
14-Feb	268.0	9.0	9.0	6.0	2.0	17.0	9.5	0.0	97.76%	19.0	11.0	5.0	3.0	8.0	5.5	0.0	73.68%	50.00	500	Oni Ruiz
15-Feb	247.0	8.0	8.0	3.0	2.0	15.0	8.5	0.0	98.79%	38.0	13.0	4.0	5.0	17.0	11.0	0.0	89.47%	50.00	500	Oni Ruiz
16-Feb	308.0	10.0	10.0	6.0	4.0	13.0	8.5	0.0	98.05%	28.0	11.0	5.0	2.0	17.0	9.5	0.0	82.14%	50.00	500	Oni Ruiz
17-Feb	281.0	6.0	6.0	2.0	4.0	6.0	5.0	0.0	99.29%	31.0	5.0	2.0	7.0	19.0	13.0	0.0	93.55%	50.00	500	Eduardo Chavez
18-Feb	326.0	9.0	9.0	5.0	3.0	7.0	5.0	0.0	98.47%	57.0	14.0	4.0	1.0	13.0	7.0	0.0	92.98%	50.00	500	Oni Ruiz
19-Feb	451.0	6.0	6.0	6.0	10.0	13.0	11.5	0.0	98.67%	18.0	6.0	5.0	5.0	9.0	7.0	0.0	72.22%	50.00	500	Jewel Husselman
20-Feb	647.0	5.0	5.0	4.0	2.0	5.0	3.5	0.5	99.38%	15.0	9.0	6.0	11.0	21.0	16.0	0.0	60.00%	50.00	500	Carlos Martinez
21-Feb	279.0	4.0	4.0	3.0	4.0	4.0	4.0	0.0	98.92%	17.0	4.0	4.0	9.0	13.0	11.0	0.0	76.47%	50.00	500	Israel Estrella
22-Feb	347.0	16.0	16.0	17.0	17.0	24.0	20.5	0.0	95.10%	47.0	23.0	19.0	18.0	34.0	26.0	0.0	59.57%	50.00	500	Theo Rodriguez
23-Feb	572.0	8.0	2.0	2.0	2.0	3.0	2.5	0.0	99.65%	11.0	6.0	4.0	12.0	18.0	15.0	0.0	63.64%	50.00	500	Carlos Martinez
24-Feb	389.0	8.0	8.0	4.0	3.0	14.0	8.5	0.0	98.97%	14.0	9.0	3.0	2.0	12.0	7.0	0.0	78.57%	50.00	500	Oni Ruiz
25-Feb	274.0	7.0	7.0	3.0	2.0	10.0	6.0	0.0	98.91%	17.0	10.0	3.0	5.0	14.0	9.5	0.0	82.35%	50.00	500	Oni Ruiz
26-Feb	597.0	3.0	3.0	2.0	7.0	10.0	8.5	0.0	99.66%	11.0	6.0	5.0	11.0	22.0	16.5	0.0	54.55%	50.00	500	Carlos Martinez
27-Feb	126.0	8.0	8.0	3.0	4.0	14.0	9.0	0.0	97.62%	59.0	6.0	3.0	2.0	7.0	4.5	0.0	94.92%	50.00	500	Oni Ruiz
28-Feb	510.0	4.0	4.0	4.0	3.0	6.0	4.5	0.0	99.22%	10.0	4.0	4.0	3.0	4.0	3.5	0.5	60.00%	50.00	500	Carlos Martinez

2018 API Carbon Canister Monitoring for Month:

March

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Mar	500.0	2.0	2.0	2.0	2.0	3.0	2.5	0.0	99.60%	8.0	8.0	5.0	14.0	16.0	15.0	0.0	37.50%	50.00	500	Jewel Husselman
2-Mar	217.0	4.0	4.0	3.0	2.0	6.0	4.0	0.0	98.62%	31.0	6.0	2.0	3.0	14.0	8.5	0.0	93.55%	50.00	500	Eduardo Chavez
3-Mar	362.0	9.0	9.0	3.0	5.0	13.0	9.0	0.0	99.17%	29.0	11.0	4.0	8.0	21.0	14.5	0.0	86.21%	50.00	500	Oni Ruiz
4-Mar	321.0	6.0	6.0	5.0	2.0	9.0	5.5	0.0	98.44%	25.0	11.0	2.0	4.0	7.0	5.5	0.0	92.00%	50.00	500	Oni Ruiz
5-Mar	244.0	6.0	6.0	4.0	2.0	6.0	4.0	0.0	98.36%	28.0	8.0	6.0	3.0	12.0	7.5	0.0	78.57%	50.00	500	Eduardo Chavez
6-Mar	120.0	4.0	4.0	3.0	2.0	3.0	2.5	0.5	97.50%	18.0	8.0	6.0	9.0	17.0	13.0	0.0	66.67%	50.00	500	Eduardo Chavez
7-Mar	281.0	3.0	3.0	2.0	4.0	6.0	5.0	0.0	99.29%	23.0	10.0	8.0	7.0	10.0	8.5	0.0	65.22%	50.00	500	Eduardo Chavez
8-Mar	118.0	5.0	5.0	3.0	4.0	6.0	5.0	0.0	97.46%	29.0	9.0	6.0	7.0	14.0	10.5	0.0	79.31%	50.00	500	Eduardo Chavez
9-Mar	138.0	7.0	7.0	3.0	2.0	6.0	4.0	0.0	97.83%	14.0	11.0	4.0	5.0	10.0	7.5	0.0	71.43%	50.00	500	Oni Ruiz
10-Mar	275.0	8.0	8.0	3.0	2.0	9.0	5.5	0.0	98.91%	21.0	14.0	2.0	4.0	7.0	5.5	0.0	90.48%	50.00	500	Oni Ruiz
11-Mar	298.0	11.0	11.0	5.0	4.0	12.0	8.0	0.0	98.32%	34.0	17.0	2.0	6.0	10.0	8.0	0.0	94.12%	50.00	500	Oni Ruiz
12-Mar	878.0	4.0	4.0	3.0	3.0	7.0	5.0	0.0	99.66%	12.0	8.0	6.0	18.0	30.0	24.0	0.0	50.00%	50.00	500	Carlos Martinez
13-Mar	550.0	3.0	3.0	2.0	2.0	3.0	2.5	0.0	99.64%	8.0	3.0	4.0	3.0	5.0	4.0	0.0	50.00%	50.00	500	Jose Nava
14-Mar	330.0	5.0	5.0	4.0	2.0	3.0	2.5	1.5	98.79%	22.0	12.0	9.0	3.0	4.0	3.5	5.5	59.09%	50.00	500	Jose Nava
15-Mar	1038.0	8.0	8.0	6.0	4.0	6.0	5.0	1.0	99.42%	26.0	9.0	3.0	6.0	12.0	9.0	0.0	88.46%	50.00	500	Oni Ruiz
16-Mar	921.0	9.0	9.0	2.0	4.0	11.0	7.5	0.0	99.78%	34.0	13.0	4.0	8.0	36.0	22.0	0.0	88.24%	50.00	500	Oni Ruiz
17-Mar	519.0	6.0	6.0	4.0	3.0	12.0	7.5	0.0	99.23%	41.0	12.0	9.0	8.0	17.0	12.5	0.0	78.05%	50.00	500	Eduardo Chavez
18-Mar	322.0	4.0	4.0	2.0	2.0	9.0	5.5	0.0	99.38%	23.0	11.0	7.0	2.0	8.0	5.0	2.0	69.57%	50.00	500	Eduardo Chavez
19-Mar	90.0	3.0	3.0	2.0	1.0	1.0	1.0	1.0	97.78%	9.0	4.0	3.0	6.0	6.0	6.0	0.0	66.67%	50.00	500	Jewel Husselman
20-Mar	763.0	3.0	3.0	2.0	9.0	25.0	17.0	0.0	99.74%	10.0	5.0	7.0	19.0	24.0	21.5	0.0	30.00%	50.00	500	Israel Estrella
21-Mar	51.0	3.0	2.0	3.0	2.0	2.0	2.0	1.0	94.12%	4.0	3.0	2.0	2.0	2.0	2.0	0.0	50.00%	50.00	500	Israel Estrella
22-Mar	371.0	4.0	4.0	8.0	7.0	21.0	14.0	0.0	97.84%	13.0	7.0	6.0	12.0	14.0	13.0	0.0	53.85%	50.00	500	Israel Estrella
23-Mar	252.0	3.0	7.0	3.0	5.0	10.0	7.5	0.0	98.81%	7.0	5.0	4.0	7.0	13.0	10.0	0.0	42.86%	50.00	500	Israel Estrella
24-Mar	171.0	4.0	4.0	3.0	3.0	3.0	3.0	0.0	98.25%	12.0	6.0	4.0	5.0	6.0	5.5	0.0	66.67%	50.00	500	Israel Estrella
25-Mar	496.0	4.0	3.0	4.0	2.0	3.0	2.5	1.5	99.19%	13.0	7.0	6.0	11.0	17.0	14.0	0.0	53.85%	50.00	500	Israel Estrella
26-Mar	421.0	5.0	4.0	3.0	4.0	3.0	4.0	0.0	99.29%	12.0	7.0	5.0	6.0	9.0	7.5	0.0	58.33%	50.00	500	Carlos Martinez
27-Mar	379.0	3.0	2.0	3.0	2.0	5.0	3.5	0.0	99.21%	12.0	5.0	4.0	4.0	10.0	7.0	0.0	66.67%	50.00	500	Eduardo Chavez
28-Mar	285.0	9.0	7.0	3.0	4.0	8.0	6.0	0.0	98.95%	50.0	18.0	8.0	7.0	9.0	8.0	0.0	84.00%	50.00	500	Homer Trujillo
29-Mar	670.0	5.0	5.0	4.0	5.0	13.0	9.0	0.0	99.40%	17.0	8.0	6.0	6.0	19.0	12.5	0.0	64.71%	50.00	500	Oni Ruiz
30-Mar	212.0	4.0	4.0	6.0	7.0	13.0	10.0	0.0	97.17%	7.0	5.0	5.0	7.0	16.0	11.5	0.0	28.57%	50.00	500	Carlos Martinez
31-Mar	500.0	5.0	5.0	4.0	2.0	38.0	20.0	0.0	99.20%	13.0	8.0	7.0	8.0	21.0	14.5	0.0	46.15%	50.00	500	Theo Rodriguez

2018 API Carbon Canister Monitoring for Month:

April

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Apr	420.0	5.0	5.0	3.0	3.0	19.0	11.0	0.0	99.29%	21.0	10.0	8.0	10.0	21.0	15.5	0.0	61.90%	50.00	500	Theo Rodriguez
2-Apr	1178.0	9.0	9.0	5.0	3.0	19.0	11.0	0.0	99.58%	15.0	7.0	4.0	2.0	11.0	6.5	0.0	73.33%	50.00	500	Oni Ruiz
3-Apr	121.0	2.0	2.0	1.0	3.0	9.0	6.0	0.0	99.17%	16.0	14.0	2.0	3.0	12.0	7.5	0.0	87.50%	50.00	500	Eduardo Chavez
4-Apr	304.0	5.0	5.0	3.0	3.0	12.0	7.5	0.0	99.01%	28.0	6.0	4.0	2.0	17.0	9.5	0.0	85.71%	50.00	500	Eduardo Chavez
5-Apr	438.0	8.0	8.0	7.0	7.0	18.0	12.5	0.0	98.40%	23.0	8.0	7.0	9.0	31.0	20.0	0.0	69.57%	50.00	500	Theo Rodriguez
6-Apr	478.0	5.0	4.0	4.0	6.0	11.0	8.5	0.0	99.16%	11.0	5.0	4.0	4.0	6.0	5.0	0.0	63.64%	50.00	500	Jose Nava
7-Apr	335.0	3.0	3.0	2.0	1.0	4.0	2.5	0.0	99.40%	8.0	6.0	3.0	7.0	18.0	12.5	0.0	62.50%	50.00	500	Carlos Martinez
8-Apr	746.0	4.0	3.0	3.0	3.0	6.0	4.5	0.0	99.60%	14.0	9.0	7.0	33.0	46.0	39.5	0.0	50.00%	50.00	500	Carlos Martinez
9-Apr	162.0	4.0	4.0	3.0	2.0	8.0	5.0	0.0	98.15%	22.0	7.0	4.0	3.0	12.0	7.5	0.0	81.82%	50.00	500	Eduardo Chavez
10-Apr	819.0	4.0	4.0	3.0	4.0	5.0	4.5	0.0	99.63%	8.0	6.0	7.0	17.0	22.0	19.5	0.0	12.50%	50.00	500	Israel Estrella
11-Apr	378.0	11.0	11.0	9.0	4.0	19.0	11.5	0.0	97.62%	15.0	11.0	9.0	8.0	11.0	9.5	0.0	40.00%	50.00	500	Homer Trujillo
12-Apr	303.0	4.0	4.0	5.0	7.0	11.0	9.0	0.0	98.35%	10.0	6.0	5.0	6.0	8.0	7.0	0.0	50.00%	50.00	500	Jerid Heath
13-Apr	238.0	9.0	9.0	3.0	4.0	8.0	6.0	0.0	98.74%	17.0	12.0	4.0	2.0	11.0	6.5	0.0	76.47%	50.00	500	Oni Ruiz
14-Apr	635.0	11.0	11.0	5.0	6.0	19.0	12.5	0.0	99.21%	31.0	12.0	4.0	2.0	8.0	5.0	0.0	87.10%	50.00	500	Oni Ruiz
15-Apr	374.0	8.0	8.0	5.0	3.0	13.0	8.0	0.0	98.66%	19.0	12.0	4.0	6.0	10.0	8.0	0.0	78.95%	50.00	500	Oni Ruiz
16-Apr	297.0	6.0	6.0	2.0	3.0	9.0	6.0	0.0	99.33%	15.0	9.0	5.0	4.0	12.0	8.0	0.0	66.67%	50.00	500	Oni Ruiz
17-Apr	334.0	8.0	8.0	4.0	2.0	9.0	5.5	0.0	98.80%	17.0	9.0	3.0	6.0	10.0	8.0	0.0	82.35%	50.00	500	Oni Ruiz
18-Apr	197.0	10.0	10.0	5.0	3.0	11.0	7.0	0.0	97.46%	19.0	13.0	4.0	2.0	7.0	4.5	0.0	78.95%	50.00	500	Oni Ruiz
19-Apr	379.0	14.0	14.0	7.0	47.0	59.0	53.0	0.0	98.15%	26.0	13.0	3.0	12.0	24.0	18.0	0.0	88.46%	50.00	500	Oni Ruiz
20-Apr	182.0	3.0	5.0	4.0	3.0	4.0	3.5	0.5	97.80%	9.0	5.0	5.0	8.0	10.0	9.0	0.0	44.44%	50.00	500	Jewel Husselman
21-Apr	197.0	6.0	6.0	3.0	3.0	8.0	5.5	0.0	98.48%	11.0	6.0	4.0	6.0	12.0	9.0	0.0	63.64%	50.00	500	Eduardo Chavez
22-Apr	116.0	4.0	4.0	2.0	4.0	5.0	4.5	0.0	98.28%	9.0	4.0	2.0	3.0	9.0	6.0	0.0	77.78%	50.00	500	Eduardo Chavez
23-Apr	241.0	9.0	9.0	2.0	3.0	17.0	10.0	0.0	99.17%	19.0	11.0	4.0	5.0	10.0	7.5	0.0	78.95%	50.00	500	Oni Ruiz
24-Apr	560.0	4.0	4.0	3.0	2.0	3.0	2.5	0.5	99.46%	17.0	7.0	7.0	5.0	7.0	6.0	1.0	58.82%	50.00	500	Jose Nava
25-Apr	362.0	11.0	8.0	7.0	6.0	6.0	6.0	1.0	98.07%	10.0	7.0	6.0	10.0	45.0	27.5	0.0	40.00%	50.00	500	Homer Trujillo
26-Apr	349.0	4.0	3.0	3.0	2.0	6.0	4.0	0.0	99.14%	10.0	6.0	3.0	4.0	5.0	4.5	0.0	70.00%	50.00	500	Jose Nava
27-Apr	337.0	3.0	3.0	2.0	5.0	6.0	5.5	0.0	99.41%	13.0	5.0	3.0	3.0	5.0	4.0	0.0	76.92%	50.00	500	Jose Nava
28-Apr	378.0	3.0	3.0	2.0	3.0	4.0	3.5	0.0	99.47%	13.0	5.0	2.0	4.0	7.0	5.5	0.0	84.62%	50.00	500	Jose Nava
29-Apr	501.0	4.0	3.0	3.0	4.0	5.0	4.5	0.0	99.40%	21.0	6.0	3.0	3.0	4.0	3.5	0.0	85.71%	50.00	500	Jose Nava
30-Apr	303.0	5.0	5.0	5.0	4.0	4.0	4.0	1.0	98.35%	21.0	6.0	6.0	6.0	7.0	6.5	0.0	71.43%	50.00	500	Jerid Heath

2018 API Carbon Canister Monitoring for Month: May

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-May	418.0	6.0	5.0	5.0	4.0	5.0	4.5	0.5	98.80%	12.0	7.0	6.0	10.0	11.0	10.5	0.0	50.00%	50.00	500	Jerid Heath
2-May	188.0	8.0	8.0	9.0	9.0	11.0	10.0	0.0	95.21%	13.0	9.0	9.0	12.0	13.0	12.5	0.0	30.77%	50.00	500	Jerid Heath
3-May	232.0	7.0	6.0	6.0	10.0	12.0	11.0	0.0	97.41%	24.0	7.0	6.0	5.0	6.0	5.5	0.5	75.00%	50.00	500	Jerid Heath
4-May	162.0	5.0	4.0	4.0	4.0	7.0	5.5	0.0	97.53%	23.0	12.0	7.0	6.0	12.0	9.0	0.0	69.57%	50.00	500	Carlos Martinez
5-May	981.0	3.0	3.0	2.0	1.0	4.0	2.5	0.0	99.80%	19.0	11.0	6.0	12.0	40.0	26.0	0.0	68.42%	50.00	500	Carlos Martinez
6-May	476.0	9.0	9.0	3.0	6.0	14.0	10.0	0.0	99.37%	18.0	11.0	5.0	4.0	12.0	8.0	0.0	72.22%	50.00	500	Oni Ruiz
7-May	378.0	3.0	3.0	4.0	3.0	9.0	6.0	0.0	98.94%	23.0	9.0	8.0	13.0	18.0	15.5	0.0	65.22%	50.00	500	Jewel Husselman
8-May	378.0	8.0	8.0	4.0	3.0	9.0	6.0	0.0	98.94%	23.0	9.0	8.0	13.0	18.0	15.5	0.0	65.22%	50.00	500	Jewel Husselman
9-May	263.0	8.0	8.0	4.0	3.0	7.0	5.0	0.0	98.48%	27.0	16.0	4.0	5.0	26.0	15.5	0.0	85.19%	50.00	500	Oni Ruiz
10-May	423.0	9.0	9.0	5.0	7.0	18.0	9.8	0.0	98.82%	29.0	18.0	6.0	10.0	26.0	18.0	0.0	79.31%	50.00	500	Oni Ruiz
11-May	483.0	8.0	8.0	2.0	7.0	12.0	9.5	0.0	99.59%	21.0	13.0	5.0	3.0	12.0	7.5	0.0	76.19%	50.00	500	Oni Ruiz
12-May	396.0	10.0	9.0	5.0	2.0	7.0	4.5	0.5	98.74%	19.0	12.0	3.0	4.0	8.0	6.0	0.0	84.21%	50.00	500	Oni Ruiz
13-May	418.0	6.0	6.0	3.0	2.0	7.0	4.5	0.0	99.28%	23.0	15.0	4.0	5.0	17.0	11.0	0.0	82.61%	50.00	500	Oni Ruiz
14-May	571.0	5.0	4.0	4.0	7.0	10.0	8.5	0.0	99.30%	24.0	8.0	6.0	7.0	8.0	7.5	0.0	75.00%	50.00	500	Jose Nava
15-May	141.0	6.0	6.0	4.0	3.0	8.0	5.5	0.0	97.16%	14.0	7.0	5.0	6.0	10.0	8.0	0.0	64.29%	50.00	500	Eduardo Chavez
16-May	265.0	7.0	7.0	4.0	3.0	12.0	7.5	0.0	98.49%	21.0	13.0	2.0	2.0	9.0	5.5	0.0	90.48%	50.00	500	Oni Ruiz
17-May	376.0	10.0	10.0	6.0	5.0	18.0	11.5	0.0	98.40%	28.0	18.0	5.0	7.0	23.0	15.0	0.0	82.14%	50.00	500	Oni Ruiz
18-May	117.0	23.0	7.0	3.0	6.0	10.0	8.0	0.0	97.44%	32.0	13.0	9.0	2.0	17.0	9.5	0.0	71.88%	50.00	500	Jewel Husselman
19-May	193.0	5.0	5.0	3.0	3.0	9.0	6.0	0.0	98.45%	27.0	14.0	7.0	6.0	18.0	12.0	0.0	74.07%	50.00	500	Carlos Martinez
20-May	211.0	4.0	4.0	3.0	4.0	8.0	6.0	0.0	98.58%	23.0	16.0	8.0	12.0	19.0	15.5	0.0	65.22%	50.00	500	Carlos Martinez
21-May	193.0	5.0	5.0	3.0	5.0	9.0	7.0	0.0	98.45%	22000.0	10.0	7.0	8.0	16.0	12.0	0.0	99.97%	50.00	500	Oni Ruiz
22-May	278.0	9.0	9.0	3.0	6.0	12.0	9.0	0.0	98.92%	3377.0	14.0	5.0	2.0	8.0	5.0	0.0	99.85%	50.00	500	Oni Ruiz
23-May	365.0	4.0	5.0	5.0	4.0	4.0	4.0	1.0	98.63%	4805.0	7.0	4.0	7.0	14.0	10.5	0.0	99.92%	50.00	500	Israel Estrella
24-May	388.0	9.0	9.0	6.0	4.0	6.0	5.0	1.0	98.45%	3146.0	16.0	10.0	8.0	14.0	11.0	0.0	99.68%	50.00	500	Eduardo Chavez
25-May	388.0	9.0	9.0	6.0	4.0	6.0	5.0	1.0	98.45%	3146.0	16.0	10.0	8.0	14.0	11.0	0.0	99.68%	50.00	500	Eduardo Chavez
26-May	193.0	4.0	4.0	2.0	4.0	8.0	6.0	0.0	98.96%	2831.0	13.0	7.0	6.0	12.0	9.0	0.0	99.75%	50.00	500	Eduardo Chavez
27-May	218.0	5.0	5.0	4.0	3.0	8.0	5.5	0.0	98.17%	4652.0	10.0	5.0	8.0	10.0	9.0	0.0	99.89%	50.00	500	Eduardo Chavez
28-May	248.0	6.0	6.0	4.0	5.0	8.0	6.5	0.0	98.39%	5703.0	8.0	3.0	4.0	13.0	8.5	0.0	99.95%	50.00	500	Eduardo Chavez
29-May	872.0	10.0	7.0	8.0	13.0	15.0	14.0	0.0	99.08%	4500.0	19.0	16.0	17.0	20.0	18.5	0.0	99.64%	50.00	500	Jerid Heath
30-May	712.0	7.0	7.0	5.0	8.0	10.0	9.0	0.0	99.30%	2831.0	9.0	8.0	13.0	15.0	14.0	0.0	99.72%	50.00	500	Jerid Heath
31-May	1713.0	6.0	6.0	4.0	3.0	5.0	4.0	0.0	99.77%	2243.0	9.0	11.0	34.0	42.0	38.0	0.0	99.51%	50.00	500	Israel Estrella

2018 API Carbon Canister Monitoring for Month:

June

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Jun	332.0	5.0	5.0	8.0	8.0	17.0	12.5	0.0	97.59%	2561.0	8.0	5.0	8.0	9.0	8.5	0.0	99.80%	50.00	500	Israel Estrella
2-Jun	304.0	6.0	6.0	5.0	7.0	8.0	7.5	0.0	98.36%	2750.0	9.0	9.0	10.0	11.0	10.5	0.0	99.67%	50.00	500	Jerid Heath
3-Jun	485.0	6.0	6.0	6.0	5.0	6.0	5.5	0.5	98.76%	2371.0	6.0	5.0	9.0	10.0	9.5	0.0	99.79%	50.00	500	Jerid Heath
4-Jun	485.0	5.0	4.0	4.0	4.0	5.0	4.5	0.0	99.18%	1648.0	12.0	7.0	8.0	11.0	9.5	0.0	99.58%	50.00	500	Jose Nava
5-Jun	610.0	5.0	5.0	4.0	5.0	8.0	6.5	0.0	99.34%	1962.0	14.0	8.0	9.0	12.0	10.5	0.0	99.59%	50.00	500	Jose Nava
6-Jun	731.0	5.0	4.0	4.0	6.0	9.0	7.5	0.0	99.45%	1972.0	12.0	5.0	8.0	11.0	9.5	0.0	99.75%	50.00	500	Jose Nava
7-Jun	578.0	6.0	4.0	4.0	4.0	6.0	5.0	0.0	99.31%	2079.0	14.0	5.0	5.0	7.0	6.0	0.0	99.76%	50.00	500	Jose Nava
8-Jun	608.0	6.0	6.0	5.0	4.0	6.0	5.0	0.0	99.18%	1310.0	10.0	5.0	3.0	4.0	3.5	1.5	99.62%	50.00	500	Jose Nava
9-Jun	731.0	7.0	7.0	5.0	6.0	8.0	7.0	0.0	99.32%	1997.0	15.0	10.0	7.0	10.0	8.5	1.5	99.50%	50.00	500	Jose Nava
10-Jun	516.0	4.0	4.0	3.0	5.0	6.0	5.5	0.0	99.42%	1713.0	9.0	5.0	4.0	5.0	4.5	0.5	99.71%	50.00	500	Jerid Heath
11-Jun	523.0	5.0	5.0	4.0	4.0	5.0	4.5	0.0	99.24%	1653.0	6.0	6.0	5.0	6.0	5.5	0.5	99.64%	50.00	500	Jerid Heath
12-Jun	478.0	9.0	9.0	8.0	6.0	8.0	7.0	1.0	98.33%	1276.0	12.0	10.0	17.0	18.0	17.5	0.0	99.22%	50.00	500	Jerid Heath
13-Jun	465.0	6.0	8.0	6.0	7.0	8.0	7.5	0.0	98.71%	2529.0	8.0	9.0	10.0	12.0	11.0	0.0	99.64%	50.00	500	Jerid Heath
14-Jun	481.0	4.0	4.0	7.0	6.0	6.0	6.0	1.0	98.54%	2856.0	7.0	7.0	9.0	11.0	10.0	0.0	99.75%	50.00	500	Jerid Heath
15-Jun	556.0	7.0	5.0	7.0	6.0	7.0	6.5	0.5	98.74%	3517.0	8.0	8.0	9.0	11.0	10.0	0.0	99.77%	50.00	500	Jerid Heath
16-Jun	487.0	8.0	8.0	3.0	4.0	9.0	6.5	0.0	99.38%	2654.0	14.0	5.0	2.0	12.0	7.0	0.0	99.81%	50.00	500	Oni Ruiz
17-Jun	697.0	10.0	10.0	6.0	9.0	34.0	21.5	0.0	99.14%	3658.0	17.0	5.0	12.0	39.0	25.5	0.0	99.86%	50.00	500	Oni Ruiz
18-Jun	233.0	6.0	6.0	4.0	2.0	7.0	4.5	0.0	98.28%	2496.0	12.0	8.0	4.0	9.0	6.5	1.5	99.68%	50.00	500	Eduardo Chavez
19-Jun	408.0	5.0	4.0	7.0	8.0	9.0	8.5	0.0	98.28%	2345.0	4.0	5.0	10.0	12.0	11.0	0.0	99.79%	50.00	500	Jerid Heath
20-Jun	276.0	10.0	10.0	7.0	5.0	5.0	5.0	2.0	97.46%	1200.0	3.0	3.0	4.0	7.0	5.5	0.0	99.75%	50.00	500	Homer Trujillo
21-Jun	676.0	6.0	6.0	5.0	4.0	7.0	5.5	0.0	99.26%	1465.0	15.0	7.0	8.0	14.0	11.0	0.0	99.52%	50.00	500	Eduardo Chavez
22-Jun	261.0	14.0	14.0	10.0	9.0	10.0	9.5	0.5	96.17%	2400.0	6.0	5.0	9.0	24.0	16.5	0.0	99.79%	50.00	500	Homer Trujillo
23-Jun	312.0	7.0	9.0	7.0	8.0	9.0	8.5	0.0	97.76%	2315.0	12.0	10.0	10.0	12.0	11.0	0.0	99.57%	50.00	500	Jerid Heath
24-Jun	375.0	9.0	10.0	9.0	8.0	9.0	8.5	0.5	97.60%	3219.0	13.0	11.0	10.0	12.0	11.0	0.0	99.66%	50.00	500	Jerid Heath
25-Jun	756.0	23.0	23.0	13.0	3.0	4.0	3.5	9.5	98.28%	2400.0	7.0	7.0	9.0	14.0	11.5	0.0	99.71%	50.00	500	Homer Trujillo
26-Jun	480.0	9.0	9.0	7.0	3.0	4.0	3.5	3.5	98.54%	3500.0	5.0	5.0	5.0	7.0	6.0	0.0	99.86%	50.00	500	Homer Trujillo
27-Jun	460.0	3.0	3.0	4.0	2.0	3.0	2.5	1.5	99.13%	1745.0	6.0	3.0	13.0	17.0	15.0	0.0	99.83%	50.00	500	Carlos Martinez
28-Jun	295.0	4.0	4.0	6.0	4.0	5.0	4.5	1.5	97.97%	3700.0	5.0	6.0	11.0	13.0	12.0	0.0	99.84%	50.00	500	Jerid Heath
29-Jun	571.0	7.0	5.0	5.0	4.0	13.0	8.5	0.0	99.12%	1200.0	4.0	3.0	6.0	10.0	8.0	0.0	99.75%	50.00	500	Carlos Martinez
30-Jun	673.0	7.0	7.0	4.0	5.0	9.0	7.0	0.0	99.41%	2738.0	13.0	4.0	2.0	12.0	7.0	0.0	99.85%	50.00	500	Oni Ruiz

2018 API Carbon Canister Monitoring for Month:

July

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Jul	739.0	8.0	8.0	5.0	2.0	12.0	7.0	0.0	99.32%	3500.0	17.0	4.0	2.0	12.0	7.0	0.0	99.89%	50.00	500	Oni Ruiz
2-Jul	365.0	7.0	7.0	8.0	8.0	9.0	8.5	0.0	97.81%	3765.0	10.0	9.0	10.0	12.0	11.0	0.0	99.76%	50.00	500	Jerid Heath
3-Jul	473.0	5.0	5.0	7.0	6.0	8.0	7.0	0.0	98.52%	2870.0	8.0	10.0	13.0	14.0	13.5	0.0	99.65%	50.00	500	Jerid Heath
4-Jul	551.0	9.0	9.0	7.0	4.0	8.0	6.0	1.0	98.73%	2896.0	14.0	8.0	6.0	10.0	8.0	0.0	99.72%	50.00	500	Eduardo Chavez
5-Jul	228.0	5.0	4.0	4.0	5.0	13.0	9.0	0.0	98.25%	1456.0	17.0	8.0	13.0	28.0	20.5	0.0	99.45%	50.00	500	Carlos Martinez
6-Jul	169.0	2.0	2.0	2.0	1.0	3.0	2.0	0.0	98.82%	1055.0	6.0	5.0	5.0	14.0	9.5	0.0	99.53%	50.00	500	Carlos Martinez
7-Jul	706.0	5.0	5.0	3.0	2.0	4.0	3.0	0.0	99.58%	1557.0	12.0	8.0	28.0	72.0	50.0	0.0	99.49%	50.00	500	Carlos Martinez
8-Jul	465.0	5.0	5.0	3.0	3.0	5.0	4.0	0.0	99.35%	1145.0	8.0	7.0	16.0	38.0	27.0	0.0	99.39%	50.00	500	Carlos Martinez
9-Jul	639.0	8.0	8.0	5.0	3.0	10.0	6.5	0.0	99.22%	2764.0	12.0	2.0	4.0	13.0	8.5	0.0	99.93%	50.00	500	Oni Ruiz
10-Jul	724.0	9.0	9.0	4.0	7.0	19.0	13.0	0.0	99.45%	2136.0	12.0	2.0	3.0	6.0	4.5	0.0	99.91%	50.00	500	Oni Ruiz
11-Jul	425.0	6.0	5.0	6.0	4.0	5.0	4.5	1.5	98.59%	2315.0	8.0	9.0	12.0	13.0	12.5	0.0	99.61%	50.00	500	Jerid Heath
12-Jul	691.0	8.0	8.0	3.0	4.0	7.0	5.5	0.0	99.57%	2880.0	13.0	5.0	2.0	10.0	6.0	0.0	99.83%	50.00	500	Oni Ruiz
13-Jul	589.0	7.0	7.0	3.0	4.0	6.0	5.0	0.0	99.49%	3500.0	21.0	5.0	6.0	17.0	11.5	0.0	99.86%	50.00	500	Oni Ruiz
14-Jul	547.0	9.0	9.0	3.0	4.0	13.0	8.5	0.0	99.45%	3500.0	21.0	5.0	8.0	17.0	12.5	0.0	99.86%	50.00	500	Oni Ruiz
15-Jul	625.0	7.0	7.0	3.0	2.0	6.0	4.0	0.0	99.52%	2478.0	12.0	4.0	4.0	9.0	6.5	0.0	99.84%	50.00	500	Oni Ruiz
16-Jul	544.0	5.0	5.0	4.0	4.0	7.0	5.5	0.0	99.26%	1423.0	14.0	9.0	11.0	13.0	12.0	0.0	99.37%	50.00	500	Jose Nava
17-Jul	566.0	4.0	4.0	3.0	4.0	5.0	4.5	0.0	99.47%	1937.0	10.0	5.0	5.0	6.0	5.5	0.0	99.74%	50.00	500	Jose Nava
18-Jul	490.0	4.0	4.0	3.0	7.0	8.0	7.5	0.0	99.39%	1368.0	13.0	4.0	8.0	11.0	9.5	0.0	99.71%	50.00	500	Jose Nava
19-Jul	619.0	5.0	5.0	3.0	3.0	5.0	4.0	0.0	99.52%	1372.0	12.0	5.0	7.0	11.0	9.0	0.0	99.64%	50.00	500	Jose Nava
20-Jul	681.0	4.0	4.0	3.0	4.0	5.0	4.5	0.0	99.56%	1648.0	11.0	4.0	6.0	8.0	7.0	0.0	99.76%	50.00	500	Jose Nava
21-Jul	541.0	5.0	5.0	4.0	3.0	5.0	4.0	0.0	99.26%	1237.0	9.0	5.0	5.0	9.0	7.0	0.0	99.60%	50.00	500	Jose Nava
22-Jul	695.0	6.0	6.0	4.0	3.0	5.0	4.0	0.0	99.42%	1472.0	15.0	5.0	5.0	7.0	6.0	0.0	99.66%	50.00	500	Jose Nava
23-Jul	369.0	7.0	7.0	6.0	8.0	10.0	9.0	0.0	98.37%	3135.0	13.0	10.0	10.0	12.0	11.0	0.0	99.68%	50.00	500	Jerid Heath
24-Jul	425.0	5.0	5.0	6.0	7.0	9.0	8.0	0.0	98.59%	3719.0	13.0	10.0	10.0	12.0	11.0	0.0	99.73%	50.00	500	Jerid Heath
25-Jul	457.0	7.0	7.0	8.0	8.0	9.0	8.5	0.0	98.25%	4379.0	11.0	10.0	10.0	12.0	11.0	0.0	99.77%	50.00	500	Jerid Heath
26-Jul	463.0	7.0	8.0	8.0	9.0	10.0	9.5	0.0	98.27%	5679.0	13.0	11.0	13.0	14.0	13.5	0.0	99.81%	50.00	500	Jerid Heath
27-Jul	379.0	7.0	8.0	8.0	9.0	10.0	9.5	0.0	97.89%	5239.0	10.0	11.0	10.0	13.0	11.5	0.0	99.79%	50.00	500	Jerid Heath
28-Jul	393.0	9.0	10.0	11.0	7.0	12.0	9.5	1.5	97.20%	5342.0	8.0	12.0	12.0	16.0	14.0	0.0	99.78%	50.00	500	Jewel Husselman
29-Jul	453.0	7.0	7.0	9.0	8.0	10.0	9.0	0.0	98.01%	5362.0	12.0	9.0	11.0	13.0	12.0	0.0	99.83%	50.00	500	Jewel Husselman
30-Jul	965.0	7.0	7.0	5.0	2.0	4.0	3.0	2.0	99.48%	1532.0	10.0	6.0	11.0	14.0	12.5	0.0	99.61%	50.00	500	Jose Nava
31-Jul	245.0	9.0	9.0	5.0	4.0	11.0	7.5	0.0	97.96%	2774.0	15.0	3.0	2.0	8.0	5.0	0.0	99.89%	50.00	500	Oni Ruiz

2018 API Carbon Canister Monitoring for Month:

August

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Aug	415.0	12.0	12.0	5.0	4.0	7.0	5.5	0.0	98.80%	7600.0	12.0	9.0	6.0	11.0	8.5	0.5	99.88%	50.00	500	Eduardo Chavez
2-Aug	732.0	8.0	8.0	4.0	6.0	9.0	7.5	0.0	99.45%	1681.0	15.0	8.0	10.0	19.0	14.5	0.0	99.52%	50.00	500	Jose Nava
3-Aug	445.0	5.0	5.0	4.0	2.0	6.0	4.0	0.0	99.10%	3200.0	12.0	7.0	5.0	9.0	7.0	0.0	99.78%	50.00	500	Eduardo Chavez
4-Aug	279.0	8.0	8.0	3.0	6.0	17.0	11.5	0.0	98.92%	2439.0	16.0	2.0	4.0	10.0	7.0	0.0	99.92%	50.00	500	Oni Ruiz
5-Aug	683.0	8.0	8.0	3.0	4.0	13.0	8.5	0.0	99.56%	2864.0	17.0	5.0	3.0	11.0	7.0	0.0	99.83%	50.00	500	Oni Ruiz
6-Aug	263.0	4.0	4.0	3.0	3.0	4.0	3.5	0.0	98.86%	7873.0	7.0	6.0	12.0	16.0	14.0	0.0	99.92%	50.00	500	Carlos Martinez
7-Aug	436.0	8.0	5.0	7.0	6.0	8.0	7.0	0.0	98.39%	3725.0	8.0	10.0	9.0	11.0	10.0	0.0	99.73%	50.00	500	Jerid Heath
8-Aug	332.0	4.0	4.0	4.0	3.0	4.0	3.5	0.5	98.80%	697.0	9.0	6.0	11.0	20.0	15.5	0.0	99.14%	50.00	500	Carlos Martinez
9-Aug	427.0	7.0	7.0	6.0	8.0	10.0	9.0	0.0	98.59%	5764.0	12.0	10.0	8.0	9.0	8.5	1.5	99.83%	50.00	500	Jerid Heath
10-Aug	114.0	2.0	2.0	1.0	1.0	2.0	1.5	0.0	99.12%	1100.0	4.0	3.0	5.0	8.0	6.5	0.0	99.73%	50.00	500	Carlos Martinez
11-Aug	186.0	3.0	2.0	2.0	3.0	6.0	4.5	0.0	98.92%	1213.0	7.0	4.0	6.0	11.0	8.5	0.0	99.67%	50.00	500	Carlos Martinez
12-Aug	127.0	3.0	2.0	2.0	6.0	9.0	7.5	0.0	98.43%	2018.0	9.0	3.0	8.0	10.0	9.0	0.0	99.85%	50.00	500	Carlos Martinez
13-Aug	397.0	7.0	7.0	2.0	3.0	12.0	7.5	0.0	99.50%	2386.0	13.0	4.0	7.0	23.0	15.0	0.0	99.83%	50.00	500	Oni Ruiz
14-Aug	341.0	6.0	6.0	5.0	6.0	14.0	10.0	0.0	98.53%	40260.0	9.0	4.0	8.0	19.0	13.5	0.0	99.99%	50.00	500	Oni Ruiz
15-Aug	396.0	7.0	7.0	3.0	8.0	24.0	16.0	0.0	99.24%	20600.0	15.0	6.0	12.0	38.0	25.0	0.0	99.97%	50.00	500	Oni Ruiz
16-Aug	368.0	7.0	9.0	7.0	3.0	9.0	6.0	1.0	98.10%	6724.0	12.0	10.0	11.0	13.0	12.0	0.0	99.85%	50.00	500	Jerid Heath
17-Aug	77.0	4.0	4.0	3.0	2.0	3.0	2.5	0.5	96.10%	837.0	5.0	3.0	3.0	6.0	4.5	0.0	99.64%	50.00	500	Carlos Martinez
18-Aug	238.0	9.0	9.0	5.0	2.0	12.0	7.0	0.0	97.90%	3500.0	17.0	3.0	3.0	14.0	8.5	0.0	99.91%	50.00	500	Oni Ruiz
19-Aug	278.0	6.0	6.0	3.0	4.0	17.0	10.5	0.0	98.92%	20400.0	13.0	4.0	3.0	6.0	4.5	0.0	99.98%	50.00	500	Oni Ruiz
20-Aug	368.0	9.0	8.0	8.0	9.0	11.0	10.0	0.0	97.83%	5624.0	11.0	12.0	9.0	10.0	9.5	2.5	99.79%	50.00	500	Jerid Heath
21-Aug	312.0	7.0	7.0	5.0	5.0	8.0	6.5	0.0	98.40%	12000.0	16.0	14.0	5.0	13.0	9.0	5.0	99.88%	50.00	500	Eduardo Chavez
22-Aug	439.0	8.0	7.0	7.0	8.0	9.0	8.5	0.0	98.41%	6734.0	10.0	11.0	10.0	12.0	11.0	0.0	99.84%	50.00	500	Jerid Heath
23-Aug	373.0	9.0	7.0	7.0	8.0	9.0	8.5	0.0	98.12%	7293.0	12.0	10.0	11.0	13.0	12.0	0.0	99.86%	50.00	500	Jerid Heath
24-Aug	471.0	6.0	6.0	4.0	8.0	13.0	10.5	0.0	99.15%	1136.0	16.0	8.0	7.0	10.0	8.5	0.0	99.30%	50.00	500	Jose Nava
25-Aug	567.0	4.0	4.0	3.0	3.0	4.0	3.5	0.0	99.47%	1349.0	11.0	4.0	3.0	4.0	3.5	0.5	99.70%	50.00	500	Jose Nava
26-Aug	479.0	5.0	5.0	4.0	4.0	5.0	4.5	0.0	99.16%	1122.0	15.0	4.0	4.0	7.0	5.5	0.0	99.64%	50.00	500	Jose Nava
27-Aug	673.0	9.0	9.0	3.0	4.0	8.0	6.0	0.0	99.55%	2247.0	14.0	5.0	2.0	7.0	4.5	0.5	99.78%	50.00	500	Oni Ruiz
28-Aug	573.0	8.0	9.0	5.0	7.0	10.0	8.5	0.0	99.13%	2176.0	16.0	6.0	3.0	9.0	6.0	0.0	99.72%	50.00	500	Jewel Husselman
29-Aug	111.0	2.0	2.0	1.0	2.0	3.0	2.5	0.0	99.10%	1356.0	5.0	3.0	5.0	10.0	7.5	0.0	99.78%	50.00	500	Carlos Martinez
30-Aug	341.0	8.0	8.0	4.0	2.0	2.0	14.0	0.0	98.83%	2448.0	17.0	3.0	4.0	12.0	8.0	0.0	99.88%	50.00	500	Oni Ruiz
31-Aug	387.0	8.0	8.0	4.0	6.0	10.0	8.0	0.0	98.97%	2497.0	14.0	3.0	5.0	17.0	11.0	0.0	99.88%	50.00	500	Oni Ruiz

NOTE: 8/8/18 - Lower than normal readings due to purging of covers & lids of API sump tank.

2018 API Carbon Canister Monitoring for Month:

September

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Sep	487.0	9.0	9.0	4.0	2.0	17.0	9.5	0.0	99.18%	5500.0	16.0	5.0	2.0	10.0	6.0	0.0	99.91%	50.00	500	Oni Ruiz
2-Sep	681.0	9.0	9.0	3.0	6.0	18.0	12.0	0.0	99.56%	3398.0	17.0	3.0	4.0	14.0	9.0	0.0	99.91%	50.00	500	Oni Ruiz
3-Sep	294.0	6.0	6.0	3.0	2.0	7.0	4.5	0.0	98.98%	4745.0	13.0	5.0	3.0	11.0	7.0	0.0	99.89%	50.00	500	Oni Ruiz
4-Sep	374.0	9.0	9.0	8.0	8.0	10.0	9.0	0.0	97.86%	7659.0	11.0	12.0	10.0	11.0	10.5	1.5	99.84%	50.00	500	Jerid Heath
5-Sep	328.0	5.0	4.0	5.0	8.0	9.0	8.5	0.0	98.48%	6775.0	11.0	12.0	9.0	11.0	10.0	2.0	99.82%	50.00	500	Jerid Heath
6-Sep	119.0	3.0	3.0	3.0	6.0	8.0	7.0	0.0	97.48%	4380.0	2.0	3.0	6.0	8.0	7.0	0.0	99.93%	50.00	500	Isaac Sanchez
7-Sep	342.0	6.0	6.0	4.0	4.0	9.0	6.5	0.0	98.83%	4500.0	14.0	6.0	6.0	12.0	9.0	0.0	99.87%	50.00	500	Eduardo Chavez
8-Sep	297.0	8.0	8.0	3.0	4.0	12.0	8.0	0.0	98.99%	4568.0	13.0	4.0	2.0	10.0	6.0	0.0	99.91%	50.00	500	Oni Ruiz
9-Sep	429.0	8.0	8.0	3.0	6.0	14.0	10.0	0.0	99.30%	3500.0	15.0	5.0	4.0	17.0	10.5	0.0	99.86%	50.00	500	Oni Ruiz
10-Sep	210.0	2.0	2.0	3.0	2.0	8.0	5.0	0.0	98.57%	3500.0	12.0	3.0	5.0	10.0	7.5	0.0	99.91%	50.00	500	Isaac Sanchez
11-Sep	374.0	9.0	9.0	3.0	4.0	11.0	7.5	0.0	99.20%	4428.0	16.0	4.0	5.0	17.0	11.0	0.0	99.91%	50.00	500	Isaac Sanchez
12-Sep	297.0	2.0	2.0	3.0	4.0	7.0	5.5	0.0	98.99%	4375.0	6.0	4.0	6.0	10.0	8.0	0.0	99.91%	50.00	500	Isaac Sanchez
13-Sep	142.0	2.0	2.0	6.0	4.0	6.0	5.0	1.0	95.77%	3213.0	3.0	5.0	7.0	11.0	9.0	0.0	99.84%	50.00	500	Isaac Sanchez
14-Sep	136.0	2.0	2.0	3.0	4.0	9.0	6.5	0.0	97.79%	3516.0	3.0	4.0	7.0	11.0	9.0	0.0	99.89%	50.00	500	Isaac Sanchez
15-Sep	181.0	3.0	3.0	5.0	2.0	5.0	3.5	1.5	97.24%	3256.0	5.0	7.0	9.0	12.0	10.5	0.0	99.79%	50.00	500	Isaac Sanchez
16-Sep	155.0	5.0	5.0	3.0	6.0	11.0	8.5	0.0	98.06%	3400.0	13.0	6.0	5.0	13.0	9.0	0.0	99.82%	50.00	500	Isaac Sanchez
17-Sep	110.0	3.0	3.0	5.0	7.0	9.0	8.0	0.0	95.45%	6743.0	10.0	12.0	10.0	11.0	10.5	1.5	99.82%	50.00	500	Jerid Heath
18-Sep	315.0	6.0	6.0	2.0	3.0	8.0	5.5	0.0	99.37%	2211.0	16.0	5.0	4.0	13.0	8.5	0.0	99.77%	50.00	500	Oni Ruiz
19-Sep	151.0	2.0	2.0	5.0	3.0	8.0	5.5	0.0	96.69%	3100.0	5.0	7.0	6.0	13.0	9.5	0.0	99.77%	50.00	500	Isaac Sanchez
20-Sep	343.0	7.0	7.0	6.0	8.0	9.0	8.5	0.0	98.25%	6245.0	10.0	11.0	9.0	11.0	10.0	1.0	99.82%	50.00	500	Jerid Heath
21-Sep	321.0	6.0	6.0	5.0	8.0	10.0	9.0	0.0	98.44%	6324.0	10.0	8.0	10.0	12.0	11.0	0.0	99.87%	50.00	500	Jerid Heath
22-Sep	342.0	9.0	9.0	4.0	6.0	17.0	11.5	0.0	98.83%	2478.0	12.0	2.0	3.0	9.0	6.0	0.0	99.92%	50.00	500	Oni Ruiz
23-Sep	277.0	8.0	8.0	3.0	2.0	9.0	5.5	0.0	98.92%	3500.0	15.0	4.0	6.0	18.0	9.0	0.0	99.89%	50.00	500	Oni Ruiz
24-Sep	669.0	16.0	16.0	8.0	10.0	11.0	10.5	0.0	98.80%	1800.0	7.0	7.0	9.0	10.0	9.5	0.0	99.61%	50.00	500	Homer Trujillo
25-Sep	661.0	6.0	4.0	4.0	6.0	9.0	7.5	0.0	99.39%	6713.0	7.0	6.0	8.0	13.0	10.5	0.0	99.91%	50.00	500	Carlos Martinez
26-Sep	66.0	3.0	3.0	7.0	9.0	20.0	14.5	0.0	89.39%	3113.0	5.0	3.0	5.0	7.0	6.0	0.0	99.90%	50.00	500	Carlos Martinez
27-Sep	348.0	8.0	7.0	1.0	8.0	10.0	9.0	0.0	99.71%	6743.0	11.0	10.0	11.0	13.0	12.0	0.0	99.85%	50.00	500	Jerid Heath
28-Sep	160.0	2.0	2.0	5.0	4.0	8.0	6.0	0.0	96.88%	1200.0	5.0	8.0	46.0	112.0	79.0	0.0	99.33%	50.00	500	Isaac Sanchez
29-Sep	189.0	5.0	5.0	4.0	4.0	7.0	5.5	0.0	97.88%	3748.0	5.0	7.0	4.0	12.0	8.0	0.0	99.81%	50.00	500	Carlos Martinez
30-Sep	732.0	4.0	4.0	3.0	3.0	4.0	3.5	0.0	99.59%	23000.0	11.0	9.0	26.0	67.0	46.5	0.0	99.96%	50.00	500	Carlos Martinez

2018 API Carbon Canister Monitoring for Month:

OCTOBER

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Oct	147.0	2.0	6.0	2.0	4.0	11.0	7.5	0.0	98.64%	1200.0	3.0	5.0	13.0	20.0	16.5	0.0	99.58%	50.00	500	Isaac Sanchez
2-Oct	286.0	4.0	4.0	2.0	5.0	14.0	9.5	0.0	99.30%	3910.0	5.0	8.0	9.0	16.0	12.5	0.0	99.80%	50.00	500	Eduardo Chavez
3-Oct	156.0	4.0	4.0	3.0	4.0	17.0	10.5	0.0	98.08%	5590.0	14.0	9.0	7.0	20.0	13.5	0.0	99.84%	50.00	500	Eduardo Chavez
4-Oct	224.0	8.0	8.0	4.0	3.0	18.0	10.5	0.0	98.21%	3500.0	16.0	5.0	2.0	7.0	4.5	0.5	99.86%	50.00	500	Oni Ruiz
5-Oct	299.0	6.0	6.0	2.0	6.0	12.0	9.0	0.0	99.33%	2364.0	14.0	7.0	4.0	18.0	11.0	0.0	99.70%	50.00	500	Oni Ruiz
6-Oct	223.0	2.0	2.0	3.0	5.0	9.0	7.0	0.0	98.65%	3879.0	5.0	4.0	10.0	23.0	16.5	0.0	99.90%	50.00	500	Isaac Sanchez
7-Oct	201.0	3.0	3.0	5.0	3.0	9.0	6.0	0.0	97.51%	2416.0	4.0	7.0	13.0	26.0	19.5	0.0	99.71%	50.00	500	Isaac Sanchez
8-Oct	98.0	9.0	9.0	3.0	2.0	7.0	4.5	0.0	96.94%	1764.0	11.0	3.0	4.0	12.0	8.0	0.0	99.83%	50.00	500	Oni Ruiz
9-Oct	92.0	8.0	8.0	4.0	6.0	10.0	8.0	0.0	95.65%	2549.0	18.0	5.0	2.0	17.0	9.5	0.0	99.80%	50.00	500	Oni Ruiz
10-Oct	92.0	7.0	7.0	2.0	3.0	9.0	6.0	0.0	97.83%	2278.0	14.0	5.0	6.0	11.0	8.5	0.0	99.78%	50.00	500	Oni Ruiz
11-Oct	204.0	6.0	6.0	5.0	3.0	8.0	5.5	0.0	97.55%	2231.0	15.0	5.0	7.0	12.0	9.5	0.0	99.78%	50.00	500	Oni Ruiz
12-Oct	146.0	2.0	2.0	5.0	4.0	7.0	5.5	0.0	96.58%	2011.0	10.0	4.0	13.0	26.0	19.5	0.0	99.80%	50.00	500	Isaac Sanchez
13-Oct	198.0	7.0	7.0	3.0	4.0	6.0	5.0	0.0	98.48%	2362.0	10.0	54.0	4.0	12.0	8.0	46.0	97.71%	50.00	500	Oni Ruiz
14-Oct	238.0	9.0	9.0	3.0	6.0	7.0	6.5	0.0	98.74%	2766.0	13.0	3.0	2.0	8.0	5.0	0.0	99.89%	50.00	500	Oni Ruiz
15-Oct	483.0	8.0	8.0	6.0	3.0	5.0	4.0	2.0	98.76%	2337.0	14.0	9.0	10.0	12.0	11.0	0.0	99.61%	50.00	500	Jose Nava
16-Oct	621.0	5.0	5.0	4.0	3.0	4.0	3.5	0.5	99.36%	1638.0	14.0	7.0	8.0	12.0	10.0	0.0	99.57%	50.00	500	Jose Nava
17-Oct	579.0	6.0	6.0	3.0	3.0	5.0	4.0	0.0	99.48%	2762.0	17.0	6.0	8.0	9.0	8.5	0.0	99.78%	50.00	500	Jose Nava
18-Oct	181.0	6.0	6.0	4.0	3.0	6.0	4.5	0.0	97.79%	2499.0	18.0	3.0	2.0	5.0	3.5	0.0	99.88%	50.00	500	Oni Ruiz
19-Oct	674.0	4.0	4.0	3.0	3.0	11.0	7.0	0.0	99.55%	3127.0	4.0	7.0	8.0	22.0	15.0	0.0	99.78%	50.00	500	Isaac Sanchez
20-Oct	628.0	4.0	4.0	3.0	3.0	5.0	4.0	0.0	99.52%	2488.0	16.0	7.0	9.0	10.0	9.5	0.0	99.72%	50.00	500	Jose Nava
21-Oct	577.0	5.0	5.0	3.0	3.0	5.0	4.0	0.0	99.48%	1488.0	17.0	9.0	7.0	9.0	8.0	1.0	99.40%	50.00	500	Jose Nava
22-Oct	628.0	5.0	5.0	6.0	7.0	6.0	6.5	0.0	99.04%	6432.0	10.0	10.0	10.0	11.0	10.5	0.0	99.84%	50.00	500	Jerid Heath
23-Oct	30.0	7.0	7.0	3.0	3.0	4.0	3.5	0.0	90.00%	1200.0	3.0	3.0	3.0	4.0	3.5	0.0	99.75%	50.00	500	Homer Trujillo
24-Oct	411.0	7.0	7.0	6.0	4.0	7.0	5.5	0.5	98.54%	3212.0	6.0	4.0	3.0	8.0	5.5	0.0	99.88%	50.00	500	Homer Trujillo
25-Oct	536.0	7.0	6.0	8.0	7.0	8.0	7.5	0.5	98.51%	6219.0	7.0	9.0	10.0	12.0	11.0	0.0	99.86%	50.00	500	Jerid Heath
26-Oct	517.0	8.0	7.0	7.0	7.0	7.0	8.0	0.0	98.65%	7431.0	13.0	11.0	9.0	10.0	9.5	1.5	99.85%	50.00	500	Jerid Heath
27-Oct	673.0	7.0	7.0	4.0	3.0	9.0	6.0	0.0	99.41%	7267.0	16.0	9.0	5.0	14.0	9.5	0.0	99.88%	50.00	500	Isaac Sanchez
28-Oct	863.0	7.0	6.0	1.0	3.0	9.0	6.0	0.0	99.88%	3217.0	9.0	3.0	5.0	11.0	8.0	0.0	99.91%	50.00	500	Isaac Sanchez
29-Oct	254.0	4.0	4.0	8.0	6.0	9.0	7.5	0.5	96.85%	4413.0	3.0	5.0	7.0	16.0	11.5	0.0	99.89%	50.00	500	Isaac Sanchez
30-Oct	1024.0	9.0	9.0	8.0	7.0	12.0	9.5	0.0	99.22%	3414.0	9.0	7.0	6.0	8.0	7.0	0.0	99.79%	50.00	500	Homer Trujillo
31-Oct	362.0	6.0	6.0	4.0	4.0	5.0	4.5	0.0	98.90%	1648.0	5.0	5.0	3.0	5.0	4.0	1.0	99.70%	50.00	500	Jose Nava

2018 API Carbon Canister Monitoring for Month:

November

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Nov	930.0	5.0	5.0	4.0	3.0	5.0	4.0	0.0	99.57%	3510.0	6.0	4.0	7.0	13.0	10.0	0.0	99.89%	50.00	500	Isaac Sanchez
2-Nov	837.0	7.0	7.0	3.0	5.0	7.0	6.0	0.0	99.64%	460.0	4.0	5.0	7.0	15.0	11.0	0.0	98.91%	50.00	500	Isaac Sanchez
3-Nov	827.0	7.0	7.0	4.0	4.0	11.0	7.5	0.0	99.52%	3711.0	4.0	6.0	6.0	18.0	12.0	0.0	99.84%	50.00	500	Isaac Sanchez
4-Nov	4344.0	5.0	5.0	2.0	3.0	10.0	6.5	0.0	99.95%	4615.0	3.0	4.0	8.0	15.0	11.5	0.0	99.91%	50.00	500	Isaac Sanchez
5-Nov	1312.0	10.0	10.0	3.0	2.0	3.0	2.5	0.5	99.77%	4512.0	12.0	8.0	17.0	25.0	21.0	0.0	99.82%	50.00	500	Carlos Martinez
6-Nov	803.0	7.0	4.0	3.0	2.0	3.0	2.5	0.5	99.63%	2453.0	8.0	6.0	11.0	31.0	21.0	0.0	99.76%	50.00	500	Carlos Martinez
7-Nov	1471.0	5.0	5.0	6.0	5.0	3.0	4.0	2.0	99.59%	3243.0	9.0	7.0	13.0	21.0	17.0	0.0	99.78%	50.00	500	Carlos Martinez
8-Nov	605.0	4.0	4.0	3.0	3.0	5.0	4.0	0.0	99.50%	2350.0	5.0	4.0	5.0	6.0	5.5	0.0	99.83%	50.00	500	Carlos Martinez
9-Nov	987.0	4.0	5.0	6.0	4.0	6.0	5.0	1.0	99.39%	4711.0	9.0	5.0	12.0	23.0	17.5	0.0	99.89%	50.00	500	Carlos Martinez
10-Nov	791.0	4.0	4.0	5.0	2.0	5.0	3.5	1.5	99.37%	3211.0	8.0	4.0	5.0	16.0	10.5	0.0	99.88%	50.00	500	Carlos Martinez
11-Nov	912.0	5.0	5.0	6.0	4.0	6.0	5.0	1.0	99.34%	4112.0	10.0	5.0	12.0	23.0	17.5	0.0	99.88%	50.00	500	Carlos Martinez
12-Nov	891.0	6.0	6.0	4.0	2.0	4.0	3.0	1.0	99.55%	7893.0	13.0	7.0	8.0	14.0	11.0	0.0	99.91%	50.00	500	Eduardo Chavez
13-Nov	979.0	8.0	7.0	5.0	2.0	3.0	2.5	2.5	99.49%	7916.0	21.0	9.0	7.0	14.0	10.5	0.0	99.89%	50.00	500	Eduardo Chavez
14-Nov	528.0	7.0	8.0	8.0	7.0	9.0	8.0	0.0	98.48%	5284.0	10.0	11.0	9.0	10.0	9.5	1.5	99.79%	50.00	500	Jerid Heath
15-Nov	680.0	7.0	6.0	8.0	4.0	5.0	4.5	3.5	98.82%	6308.0	11.0	12.0	7.0	8.0	7.5	4.5	99.81%	50.00	500	Jerid Heath
16-Nov	516.0	6.0	6.0	4.0	3.0	6.0	4.5	0.0	99.22%	7612.0	17.0	10.0	9.0	14.0	11.5	0.0	99.87%	50.00	500	Eduardo Chavez
17-Nov	793.0	8.0	8.0	4.0	4.0	6.0	5.0	0.0	99.50%	2278.0	13.0	5.0	3.0	12.0	7.5	0.0	99.78%	50.00	500	Oni Ruiz
18-Nov	879.0	8.0	8.0	5.0	9.0	16.0	12.5	0.0	99.43%	2169.0	10.0	2.0	6.0	7.0	6.5	0.0	99.91%	50.00	500	Oni Ruiz
19-Nov	581.0	6.0	6.0	4.0	4.0	8.0	6.0	0.0	99.31%	7912.0	12.0	9.0	7.0	12.0	9.5	0.0	99.89%	50.00	500	Eduardo Chavez
20-Nov	629.0	5.0	5.0	2.0	4.0	9.0	6.5	0.0	99.68%	6127.0	17.0	8.0	4.0	18.0	11.0	0.0	99.87%	50.00	500	Jewel Husselman
21-Nov	582.0	8.0	8.0	5.0	7.0	11.0	9.0	0.0	99.14%	2828.0	6.0	4.0	7.0	16.0	11.5	0.0	99.86%	50.00	500	Homer Trujillo
22-Nov	664.0	9.0	9.0	3.0	4.0	7.0	5.5	0.0	99.55%	3436.0	19.0	4.0	6.0	13.0	9.5	0.0	99.88%	50.00	500	Oni Ruiz
23-Nov	504.0	6.0	6.0	3.0	2.0	9.0	5.5	0.0	99.40%	2166.0	9.0	4.0	4.0	10.0	7.0	0.0	99.82%	50.00	500	Oni Ruiz
24-Nov	738.0	9.0	9.0	6.0	3.0	5.0	4.0	2.0	99.19%	3374.0	13.0	4.0	4.0	12.0	8.0	0.0	99.88%	50.00	500	Oni Ruiz
25-Nov	582.0	8.0	8.0	3.0	4.0	6.0	5.0	0.0	99.48%	2677.0	18.0	5.0	7.0	9.0	8.0	0.0	99.81%	50.00	500	Oni Ruiz
26-Nov	871.0	4.0	4.0	3.0	8.0	10.0	9.0	0.0	99.66%	6371.0	10.0	5.0	12.0	23.0	17.5	0.0	99.92%	50.00	500	Carlos Martinez
27-Nov	667.0	9.0	9.0	3.0	4.0	8.0	6.0	0.0	99.55%	6132.0	6.0	7.0	18.0	24.0	21.0	0.0	99.89%	50.00	500	Josh Beydo
28-Nov	297.0	4.0	3.0	5.0	3.0	3.0	3.0	2.0	98.32%	3241.0	3.0	5.0	4.0	10.0	7.0	0.0	99.85%	50.00	500	Josh Beydo
29-Nov	225.0	5.0	6.0	2.0	3.0	8.0	5.5	0.0	99.11%	4295.0	3.0	4.0	4.0	12.0	8.0	0.0	99.91%	50.00	500	Josh Beydo
30-Nov	416.0	7.0	7.0	5.0	5.0	9.0	7.0	0.0	98.80%	5020.0	3.0	4.0	3.0	10.0	6.5	0.0	99.92%	50.00	500	Josh Beydo

2018 API Carbon Canister Monitoring for Month:

December

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Dec	835.0	6.0	6.0	3.0	2.0	4.0	3.0	0.0	99.64%	2633.0	16.0	4.0	3.0	7.0	5.0	0.0	99.85%	50.00	500	Oni Ruiz
2-Dec	630.0	9.0	9.0	4.0	3.0	10.0	6.5	0.0	99.37%	4468.0	17.0	5.0	4.0	8.0	6.0	0.0	99.89%	50.00	500	Oni Ruiz
3-Dec	225.0	10.0	11.0	5.0	3.0	13.0	8.0	0.0	97.78%	1426.0	5.0	5.0	4.0	11.0	7.5	0.0	99.65%	50.00	500	Josh Beydo
4-Dec	467.0	5.0	5.0	3.0	3.0	5.0	4.0	0.0	99.36%	1175.0	8.0	5.0	4.0	5.0	4.5	0.5	99.57%	50.00	500	Jose Nava
5-Dec	512.0	5.0	5.0	4.0	4.0	5.0	4.5	0.0	99.22%	3566.0	5.0	3.0	7.0	18.0	12.5	0.0	99.92%	50.00	500	Jose Nava
6-Dec	548.0	5.0	5.0	4.0	4.0	5.0	4.5	0.0	99.27%	1844.0	6.0	4.0	8.0	16.0	12.0	0.0	99.78%	50.00	500	Jose Nava
7-Dec	397.0	5.0	5.0	4.0	3.0	4.0	3.5	0.5	98.99%	2148.0	7.0	3.0	2.0	3.0	2.5	0.5	99.86%	50.00	500	Jose Nava
8-Dec	468.0	5.0	5.0	4.0	3.0	4.0	3.5	0.5	99.15%	1148.0	10.0	3.0	3.0	5.0	4.0	0.0	99.74%	50.00	500	Jose Nava
9-Dec	421.0	4.0	4.0	3.0	3.0	5.0	4.0	0.0	99.29%	1139.0	7.0	3.0	3.0	8.0	5.5	0.0	99.74%	50.00	500	Jose Nava
10-Dec	463.0	6.0	6.0	5.0	4.0	6.0	5.0	0.0	98.92%	3278.0	9.0	8.0	5.0	6.0	5.5	2.5	99.76%	50.00	500	Jerid Heath
11-Dec	419.0	4.0	4.0	6.0	6.0	7.0	6.5	0.0	98.57%	5241.0	8.0	7.0	8.0	9.0	8.5	0.0	99.87%	50.00	500	Jerid Heath
12-Dec	426.0	4.0	4.0	6.0	6.0	5.0	5.5	0.5	98.59%	4284.0	10.0	8.0	7.0	9.0	8.0	0.0	99.81%	50.00	500	Jerid Heath
13-Dec	319.0	5.0	5.0	4.0	6.0	8.0	7.0	0.0	98.75%	4263.0	8.0	7.0	9.0	10.0	9.5	0.0	99.84%	50.00	500	Jerid Heath
14-Dec	321.0	6.0	6.0	5.0	5.0	7.0	6.0	0.0	98.44%	4265.0	10.0	12.0	7.0	8.0	7.5	4.5	99.72%	50.00	500	Jerid Heath
15-Dec	571.0	9.0	9.0	3.0	5.0	7.0	6.0	0.0	99.47%	2155.0	13.0	4.0	2.0	18.0	10.0	0.0	99.81%	50.00	500	Oni Ruiz
16-Dec	643.0	7.0	7.0	2.0	2.0	4.0	3.0	0.0	99.69%	2471.0	13.0	4.0	5.0	10.0	7.5	0.0	99.84%	50.00	500	Oni Ruiz
17-Dec	444.0	8.0	8.0	2.0	4.0	9.0	6.5	0.0	99.55%	2353.0	9.0	5.0	6.0	14.0	10.0	0.0	99.79%	50.00	500	Isaac Sanchez
18-Dec	418.0	6.0	6.0	9.0	9.0	11.0	10.0	0.0	97.85%	3716.0	5.0	6.0	14.0	25.0	19.5	0.0	99.84%	50.00	500	Carlos Martinez
19-Dec	437.0	9.0	9.0	3.0	4.0	7.0	5.5	0.0	99.31%	2467.0	7.0	5.0	11.0	18.0	14.5	0.0	99.80%	50.00	500	Isaac Sanchez
20-Dec	451.0	6.0	5.0	5.0	7.0	12.0	9.5	0.0	98.89%	4711.0	8.0	5.0	12.0	19.0	15.5	0.0	99.89%	50.00	500	Carlos Martinez
21-Dec	165.0	7.0	7.0	4.0	3.0	6.0	4.5	0.0	97.58%	2400.0	2.0	3.0	4.0	11.0	7.5	0.0	99.88%	50.00	500	Isaac Sanchez
22-Dec	323.0	6.0	6.0	2.0	4.0	6.0	5.0	0.0	99.38%	2451.0	2.0	2.0	5.0	11.0	8.0	0.0	99.92%	50.00	500	Isaac Sanchez
23-Dec	335.0	5.0	5.0	3.0	4.0	7.0	5.5	0.0	99.10%	2641.0	4.0	2.0	4.0	13.0	8.5	0.0	99.92%	50.00	500	Isaac Sanchez
24-Dec	523.0	11.0	13.0	11.0	4.0	11.0	7.5	3.5	97.90%	1386.0	7.0	8.0	7.0	10.0	8.5	0.0	99.42%	50.00	500	Josh Beydo
25-Dec	381.0	12.0	12.0	6.0	3.0	9.0	6.0	0.0	98.43%	1113.0	2.0	3.0	4.0	13.0	8.5	0.0	99.73%	50.00	500	Josh Beydo
26-Dec	246.0	9.0	8.0	4.0	4.0	9.0	6.5	0.0	98.37%	2023.0	2.0	3.0	4.0	13.0	8.5	0.0	99.85%	50.00	500	Josh Beydo
27-Dec	181.0	7.0	7.0	4.0	4.0	11.0	7.5	0.0	97.79%	2418.0	2.0	2.0	3.0	8.0	5.5	0.0	99.92%	50.00	500	Josh Beydo
28-Dec	215.0	10.0	10.0	8.0	2.0	9.0	5.5	2.5	96.28%	9461.0	4.0	2.0	3.0	6.0	4.5	0.0	99.98%	50.00	500	Eduardo Chavez
29-Dec	17.0	11.0	10.0	5.0	3.0	7.0	5.0	0.0	70.59%	4210.0	0.0	1.0	3.0	9.0	6.0	0.0	99.98%	50.00	500	Josh Beydo
30-Dec	203.0	9.0	6.0	5.0	3.0	9.0	6.0	0.0	97.54%	4652.0	2.0	1.0	4.0	11.0	7.5	0.0	99.98%	50.00	500	Josh Beydo
31-Dec	187.0	8.0	8.0	4.0	3.0	6.0	4.5	0.0	97.86%	2414.0	7.0	5.0	5.0	7.0	6.0	0.0	99.79%	50.00	500	Isaac Sanchez

2019 API Carbon Canister Monitoring for Month:

January

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Jan	361.0	7.0	7.0	4.0	3.0	8.0	5.5	0.0	98.89%	2960.0	11.0	2.0	2.0	7.0	4.5	0.0	99.93%	50.00	500	Oni Ruiz
2-Jan	111.0	9.0	6.0	3.0	3.0	10.0	6.5	0.0	97.30%	816.0	1.0	2.0	2.0	9.0	5.5	0.0	99.75%	50.00	500	Josh Baydo
3-Jan	102.0	4.0	4.0	4.0	3.0	8.0	5.5	0.0	96.08%	2537.0	1.0	3.0	2.0	6.0	4.0	0.0	99.88%	50.00	500	Josh Baydo
4-Jan	154.0	5.0	5.0	2.0	3.0	4.0	3.5	0.0	98.70%	6412.0	2.0	3.0	2.0	6.0	4.0	0.0	99.95%	50.00	500	Josh Baydo
5-Jan	147.0	6.0	6.0	2.0	3.0	7.0	5.0	0.0	98.64%	5312.0	2.0	4.0	3.0	8.0	5.5	0.0	99.92%	50.00	500	Isaac Sanchez
6-Jan	118.0	6.0	6.0	4.0	4.0	7.0	5.5	0.0	96.61%	4317.0	3.0	5.0	4.0	12.0	8.0	0.0	99.88%	50.00	500	Isaac Sanchez
7-Jan	122.0	6.0	5.0	3.0	4.0	19.0	11.5	0.0	97.54%	1431.0	5.0	4.0	7.0	11.0	9.0	0.0	99.72%	50.00	500	Carlos Martinez
8-Jan	91.0	5.0	5.0	2.0	1.0	8.0	4.5	0.0	97.80%	2539.0	2.0	3.0	3.0	9.0	6.0	0.0	99.88%	50.00	500	Josh Baydo
9-Jan	95.0	6.0	6.0	3.0	3.0	8.0	5.5	0.0	96.84%	8966.0	2.0	3.0	4.0	10.0	7.0	0.0	99.97%	50.00	500	Josh Baydo
10-Jan	142.0	5.0	5.0	6.0	4.0	8.0	6.0	0.0	95.77%	8257.0	5.0	3.0	5.0	11.0	8.0	0.0	99.96%	50.00	500	Josh Baydo
11-Jan	260.0	9.0	8.0	4.0	4.0	7.0	5.5	0.0	98.46%	4671.0	3.0	3.0	5.0	11.0	8.0	0.0	99.94%	50.00	500	Isaac Sanchez
12-Jan	418.0	6.0	6.0	4.0	3.0	10.0	6.5	0.0	99.04%	37916.0	6.0	4.0	7.0	12.0	9.5	0.0	99.99%	50.00	500	Carlos Martinez
13-Jan	318.0	7.0	6.0	6.0	5.0	8.0	6.5	0.0	98.11%	4112.0	7.0	6.0	8.0	12.0	10.0	0.0	99.85%	50.00	500	Carlos Martinez
14-Jan	188.0	6.0	6.0	4.0	5.0	8.0	6.5	0.0	97.87%	3211.0	3.0	4.0	6.0	10.0	8.0	0.0	99.88%	50.00	500	Isaac Sanchez
15-Jan	210.0	5.0	5.0	3.0	4.0	7.0	5.5	0.0	98.57%	2515.0	3.0	5.0	5.0	7.0	6.0	0.0	99.80%	50.00	500	Isaac Sanchez
16-Jan	190.0	6.0	5.0	3.0	4.0	6.0	5.0	0.0	98.42%	3316.0	2.0	4.0	4.0	9.0	6.5	0.0	99.88%	50.00	500	Isaac Sanchez
17-Jan	190.0	8.0	8.0	4.0	3.0	7.0	5.0	0.0	97.89%	6317.0	3.0	6.0	5.0	11.0	8.0	0.0	99.91%	50.00	500	Isaac Sanchez
18-Jan	155.0	7.0	7.0	2.0	4.0	8.0	6.0	0.0	98.71%	3317.0	3.0	4.0	5.0	6.0	5.5	0.0	99.88%	50.00	500	Isaac Sanchez
19-Jan	164.0	6.0	6.0	3.0	5.0	6.0	5.5	0.0	98.17%	4610.0	3.0	5.0	6.0	10.0	8.0	0.0	99.89%	50.00	500	Isaac Sanchez
20-Jan	101.0	8.0	7.0	3.0	5.0	7.0	6.0	0.0	97.03%	6317.0	2.0	7.0	8.0	11.0	9.5	0.0	99.89%	50.00	500	Isaac Sanchez
21-Jan	261.0	9.0	9.0	5.0	3.0	14.0	8.5	0.0	98.08%	2469.0	17.0	4.0	6.0	10.0	8.0	0.0	99.84%	50.00	500	Oni Ruiz
22-Jan	380.0	8.0	8.0	4.0	3.0	4.0	3.5	0.5	98.95%	3500.0	15.0	4.0	6.0	9.0	7.5	0.0	99.89%	50.00	500	Oni Ruiz
23-Jan	253.0	18.0	16.0	8.0	5.0	9.0	7.0	1.0	96.84%	1700.0	4.0	3.0	5.0	9.0	7.0	0.0	99.82%	50.00	500	Homer Trujillo
24-Jan	98.0	2.0	4.0	6.0	4.0	9.0	6.5	0.0	93.88%	6473.0	3.0	3.0	2.0	10.0	6.0	0.0	99.95%	50.00	500	Josh Baydo
25-Jan	562.0	6.0	6.0	4.0	3.0	6.0	4.5	0.0	99.29%	1496.0	12.0	6.0	5.0	9.0	7.0	0.0	99.60%	50.00	500	Jose Nava
26-Jan	319.0	6.0	6.0	2.0	4.0	7.0	5.5	0.0	99.37%	1873.0	14.0	5.0	6.0	8.0	7.0	0.0	99.73%	50.00	500	Oni Ruiz
27-Jan	386.0	9.0	9.0	6.0	7.0	13.0	10.0	0.0	98.45%	2658.0	18.0	4.0	10.0	19.0	14.5	0.0	99.85%	50.00	500	Oni Ruiz
28-Jan	512.0	5.0	5.0	4.0	5.0	6.0	5.5	0.0	99.22%	1372.0	14.0	9.0	5.0	6.0	5.5	3.5	99.34%	50.00	500	Jose Nava
29-Jan	165.0	5.0	6.0	7.0	4.0	5.0	4.5	2.5	95.76%	5243.0	12.0	11.0	13.0	15.0	14.0	0.0	99.79%	50.00	500	Jerid Heath
30-Jan	121.0	9.0	8.0	6.0	4.0	11.0	7.5	0.0	95.04%	2148.0	5.0	7.0	6.0	13.0	9.5	0.0	99.67%	50.00	500	Josh Baydo
31-Jan	322.0	4.0	4.0	3.0	4.0	5.0	4.5	0.0	99.07%	1395.0	11.0	5.0	6.0	9.0	7.5	0.0	99.64%	50.00	500	Jose Nava

2019 API Carbon Canister Monitoring for Month:

February

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Feb	247.0	6.0	6.0	4.0	3.0	4.0	3.5	0.5	98.38%	1169.0	15.0	6.0	7.0	10.0	8.5	0.0	99.49%	50.00	500	Jose Nava
2-Feb	427.0	5.0	5.0	4.0	3.0	4.0	3.5	0.5	99.06%	1782.0	12.0	6.0	5.0	9.0	7.0	0.0	99.66%	50.00	500	Jose Nava
3-Feb	359.0	5.0	5.0	3.0	2.0	4.0	3.0	0.0	99.16%	1168.0	14.0	5.0	9.0	13.0	11.0	0.0	99.57%	50.00	500	Jose Nava
4-Feb	143.0	5.0	5.0	6.0	6.0	8.0	7.0	0.0	95.80%	3219.0	11.0	10.0	10.0	12.0	11.0	0.0	99.69%	50.00	500	Jerid Heath
5-Feb	321.0	6.0	6.0	7.0	6.0	7.0	6.5	0.5	97.82%	2464.0	11.0	9.0	9.0	10.0	9.5	0.0	99.63%	50.00	500	Jerid Heath
6-Feb	284.0	5.0	5.0	7.0	6.0	7.0	6.5	0.5	97.54%	3243.0	11.0	10.0	10.0	11.0	10.5	0.0	99.69%	50.00	500	Jerid Heath
7-Feb	236.0	5.0	5.0	7.0	6.0	7.0	6.5	0.5	97.03%	2393.0	13.0	11.0	10.0	12.0	11.0	0.0	99.54%	50.00	500	Jerid Heath
8-Feb	201.0	5.0	5.0	2.0	3.0	5.0	4.0	0.0	99.00%	4316.0	3.0	5.0	4.0	13.0	8.5	0.0	99.88%	50.00	500	Isaac Sanchez
9-Feb	396.0	7.0	7.0	3.0	5.0	18.0	11.5	0.0	99.24%	3781.0	19.0	5.0	6.0	15.0	10.5	0.0	99.87%	50.00	500	Oni Ruiz
10-Feb	461.0	9.0	9.0	6.0	3.0	27.0	15.0	0.0	98.70%	2650.0	10.0	4.0	2.0	12.0	7.0	0.0	99.85%	50.00	500	Oni Ruiz
11-Feb	171.0	10.0	10.0	3.0	3.0	5.0	4.0	0.0	98.25%	3519.0	6.0	7.0	10.0	16.0	13.0	0.0	99.80%	50.00	500	Oni Ruiz
12-Feb	233.0	10.0	10.0	4.0	4.0	9.0	6.5	0.0	98.28%	4616.0	7.0	8.0	10.0	17.0	13.5	0.0	99.83%	50.00	500	Isaac Sanchez
13-Feb	246.0	6.0	6.0	5.0	5.0	7.0	6.0	0.0	97.97%	5219.0	8.0	6.0	10.0	13.0	11.5	0.0	99.89%	50.00	500	Jerid Heath
14-Feb	205.0	7.0	7.0	3.0	3.0	5.0	4.0	0.0	98.54%	3317.0	4.0	3.0	5.0	13.0	9.0	0.0	99.91%	50.00	500	Isaac Sanchez
15-Feb	295.0	11.0	10.0	6.0	4.0	13.0	8.5	0.0	97.97%	2671.0	6.0	5.0	7.0	17.0	12.0	0.0	99.81%	50.00	500	Isaac Sanchez
16-Feb	177.0	9.0	9.0	2.0	3.0	9.0	6.0	0.0	98.87%	2331.0	17.0	5.0	6.0	20.0	13.0	0.0	99.79%	50.00	500	Isaac Sanchez
17-Feb	330.0	12.0	12.0	2.0	3.0	9.0	6.0	0.0	99.39%	2651.0	11.0	4.0	4.0	15.0	9.5	0.0	99.85%	50.00	500	Isaac Sanchez
18-Feb	291.0	8.0	7.0	4.0	4.0	8.0	6.0	0.0	98.63%	3411.0	9.0	5.0	7.0	12.0	9.5	0.0	99.85%	50.00	500	Carlos Martinez
19-Feb	412.0	4.0	4.0	3.0	3.0	5.0	4.0	0.0	99.27%	1258.0	14.0	7.0	7.0	10.0	8.5	0.0	99.44%	50.00	500	Jose Nava
20-Feb	341.0	5.0	4.0	4.0	4.0	10.0	7.0	0.0	98.83%	2378.0	15.0	7.0	12.0	18.0	15.0	0.0	99.71%	50.00	500	Carlos Martinez
21-Feb	451.0	5.0	6.0	6.0	4.0	7.0	5.5	0.5	98.67%	3246.0	12.0	5.0	7.0	16.0	11.5	0.0	99.85%	50.00	500	Carlos Martinez
22-Feb	271.0	5.0	4.0	4.0	3.0	6.0	4.5	0.0	98.52%	3220.0	14.0	6.0	8.0	16.0	12.0	0.0	99.81%	50.00	500	Carlos Martinez
23-Feb	337.0	9.0	9.0	4.0	5.0	13.0	9.0	0.0	98.81%	3960.0	17.0	3.0	7.0	19.0	13.0	0.0	99.92%	50.00	500	Oni Ruiz
24-Feb	276.0	6.0	6.0	4.0	2.0	7.0	4.5	0.0	98.55%	2871.0	18.0	5.0	3.0	34.0	18.5	0.0	99.83%	50.00	500	Oni Ruiz
25-Feb	622.0	4.0	4.0	5.0	4.0	8.0	6.0	0.0	99.20%	7090.0	12.0	7.0	6.0	10.0	8.0	0.0	99.90%	50.00	500	Eduardo Chavez
26-Feb	221.0	4.0	4.0	3.0	7.0	10.0	8.5	0.0	98.64%	4371.0	9.0	5.0	9.0	17.0	13.0	0.0	99.89%	50.00	500	Carlos Martinez
27-Feb	345.0	14.0	14.0	7.0	4.0	17.0	10.5	0.0	97.97%	4637.0	8.0	8.0	13.0	20.0	16.5	0.0	99.83%	50.00	500	Carlos Martinez
28-Feb	304.0	12.0	12.0	13.0	14.0	19.0	16.5	0.0	95.72%	3511.0	7.0	10.0	11.0	21.0	16.0	0.0	99.72%	50.00	500	Isaac Sanchez

2019 API Carbon Canister Monitoring for Month:

March

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Mar	154.0	11.0	11.0	4.0	3.0	7.0	5.0	0.0	97.40%	2569.0	10.0	3.0	6.0	13.0	9.5	0.0	99.88%	50.00	500	Isaac Sanchez
2-Mar	189.0	10.0	10.0	2.0	3.0	6.0	4.5	0.0	98.94%	6314.0	11.0	7.0	3.0	13.0	8.0	0.0	99.89%	50.00	500	Isaac Sanchez
3-Mar	253.0	15.0	15.0	6.0	10.0	17.0	13.5	0.0	97.63%	6123.0	19.0	5.0	13.0	24.0	18.5	0.0	99.92%	50.00	500	Isaac Sanchez
4-Mar	179.0	9.0	9.0	5.0	3.0	11.0	7.0	0.0	97.21%	20100.0	5.0	4.0	6.0	14.0	10.0	0.0	99.98%	50.00	500	Josh Baydo
5-Mar	140.0	10.0	10.0	7.0	5.0	11.0	8.0	0.0	95.00%	9184.0	5.0	5.0	6.0	12.0	9.0	0.0	99.95%	50.00	500	Josh Baydo
6-Mar	450.0	6.0	9.0	7.0	5.0	12.0	8.5	0.0	98.44%	9365.0	6.0	7.0	4.0	14.0	9.0	0.0	99.93%	50.00	500	Josh Baydo
7-Mar	342.0	7.0	7.0	6.0	6.0	8.0	7.0	0.0	98.25%	7234.0	11.0	10.0	9.0	11.0	10.0	0.0	99.86%	50.00	500	Jerid Heath
8-Mar	276.0	11.0	10.0	6.0	2.0	3.0	2.5	3.5	97.83%	3246.0	5.0	5.0	9.0	17.0	13.0	0.0	99.85%	50.00	500	Carlos Martinez
9-Mar	394.0	6.0	6.0	5.0	6.0	7.0	6.5	0.0	98.73%	3479.0	13.0	4.0	3.0	9.0	6.0	0.0	99.89%	50.00	500	Oni Ruiz
10-Mar	274.0	9.0	9.0	3.0	2.0	14.0	8.0	0.0	98.91%	3500.0	15.0	3.0	3.0	19.0	11.0	0.0	99.91%	50.00	500	Oni Ruiz
11-Mar	99.0	6.0	5.0	4.0	3.0	9.0	6.0	0.0	95.96%	3124.0	2.0	4.0	4.0	11.0	7.5	0.0	99.87%	50.00	500	Josh Baydo
12-Mar	122.0	7.0	6.0	5.0	4.0	7.0	5.5	0.0	95.90%	6327.0	4.0	5.0	5.0	11.0	8.0	0.0	99.92%	50.00	500	Josh Baydo
13-Mar	379.0	8.0	8.0	4.0	6.0	27.0	16.5	0.0	98.94%	2868.0	13.0	5.0	9.0	12.0	10.5	0.0	99.83%	50.00	500	Oni Ruiz
14-Mar	379.0	8.0	8.0	4.0	6.0	27.0	16.5	0.0	98.94%	2868.0	13.0	5.0	9.0	12.0	10.5	0.0	99.83%	50.00	500	Oni Ruiz
15-Mar	150.0	5.0	5.0	3.0	3.0	4.0	3.5	0.0	98.00%	8658.0	4.0	3.0	4.0	5.0	4.5	0.0	99.97%	50.00	500	Carlos Martinez
16-Mar	171.0	5.0	5.0	4.0	4.0	9.0	6.5	0.0	97.66%	3678.0	6.0	4.0	8.0	13.0	10.5	0.0	99.89%	50.00	500	Carlos Martinez
17-Mar	137.0	6.0	6.0	4.0	5.0	11.0	8.0	0.0	97.08%	3361.0	7.0	4.0	8.0	14.0	11.0	0.0	99.88%	50.00	500	Carlos Martinez
18-Mar	361.0	7.0	7.0	2.0	2.0	7.0	4.5	0.0	99.45%	3317.0	14.0	8.0	5.0	11.0	8.0	0.0	99.76%	50.00	500	Isaac Sanchez
19-Mar	101.0	4.0	4.0	3.0	2.0	5.0	3.5	0.0	97.03%	4371.0	7.0	3.0	2.0	10.0	6.0	0.0	99.93%	50.00	500	Isaac Sanchez
20-Mar	92.0	5.0	5.0	3.0	2.0	3.0	2.5	0.5	96.74%	2719.0	8.0	5.0	7.0	16.0	11.5	0.0	99.82%	50.00	500	Isaac Sanchez
21-Mar	233.0	10.0	10.0	4.0	3.0	7.0	5.0	0.0	98.28%	4671.0	11.0	6.0	6.0	13.0	9.5	0.0	99.87%	50.00	500	Isaac Sanchez
22-Mar	141.0	6.0	6.0	4.0	2.0	7.0	4.5	0.0	97.16%	1799.0	9.0	4.0	6.0	19.0	12.5	0.0	99.78%	50.00	500	Isaac Sanchez
23-Mar	64.0	4.0	4.0	2.0	2.0	3.0	4.0	0.0	96.88%	3213.0	8.0	3.0	4.0	6.0	5.0	0.0	99.91%	50.00	500	Isaac Sanchez
24-Mar	147.0	10.0	10.0	4.0	3.0	7.0	5.0	0.0	97.28%	3310.0	13.0	8.0	7.0	19.0	13.0	0.0	99.76%	50.00	500	Isaac Sanchez
25-Mar	171.0	7.0	7.0	3.0	5.0	9.0	7.0	0.0	98.25%	2749.0	3.0	4.0	6.0	13.0	9.5	0.0	99.85%	50.00	500	Josh Baydo
26-Mar	362.0	5.0	5.0	3.0	4.0	6.0	4.0	0.0	99.17%	6941.0	11.0	8.0	8.0	10.0	9.0	0.0	99.88%	50.00	500	Eduardo Chavez
27-Mar	217.0	5.0	5.0	4.0	2.0	4.0	3.0	1.0	98.16%	2043.0	10.0	7.0	6.0	9.0	7.5	0.0	99.66%	50.00	500	Eduardo Chavez
28-Mar	241.0	6.0	6.0	3.0	3.0	5.0	4.0	0.0	98.76%	2093.0	10.0	7.0	8.0	12.0	10.0	0.0	99.67%	50.00	500	Eduardo Chavez
29-Mar	210.0	12.0	7.0	7.0	7.0	13.0	10.0	0.0	96.67%	7132.0	3.0	5.0	8.0	11.0	9.5	0.0	99.93%	50.00	500	Josh Baydo
30-Mar	261.0	7.0	7.0	5.0	2.0	6.0	4.0	1.0	98.08%	2287.0	18.0	4.0	4.0	6.0	5.0	0.0	99.83%	50.00	500	Oni Ruiz
31-Mar	311.0	8.0	8.0	4.0	9.0	17.0	13.0	0.0	98.71%	2463.0	14.0	3.0	5.0	12.0	8.5	0.0	99.88%	50.00	500	Oni Ruiz

2019 API Carbon Canister Monitoring for Month:

April

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Apr	419.0	10.0	6.0	10.0	5.0	13.0	9.0	1.0	97.61%	2722.0	2.0	5.0	4.0	12.0	8.0	0.0	99.82%	50.00	500	Josh Baydo
2-Apr	115.0	5.0	5.0	2.0	2.0	4.0	3.0	0.0	98.26%	2314.0	2.0	5.0	5.0	8.0	6.5	0.0	99.78%	50.00	500	Isaac Sanchez
3-Apr	121.0	8.0	8.0	6.0	2.0	7.0	4.5	1.5	95.04%	2139.0	4.0	5.0	7.0	13.0	10.0	0.0	99.77%	50.00	500	Isaac Sanchez
4-Apr	422.0	8.0	8.0	6.0	5.0	10.0	7.5	0.0	98.58%	5132.0	6.0	5.0	6.0	12.0	9.0	0.0	99.90%	50.00	500	Josh Baydo
5-Apr	349.0	4.0	4.0	3.0	9.0	11.0	10.0	0.0	99.14%	1478.0	15.0	7.0	6.0	9.0	7.5	0.0	99.53%	50.00	500	Jose Nava
6-Apr	412.0	5.0	4.0	3.0	3.0	5.0	4.0	0.0	99.27%	4687.0	17.0	8.0	8.0	9.0	8.5	0.0	99.83%	50.00	500	Jose Nava
7-Apr	527.0	4.0	4.0	4.0	4.0	6.0	5.0	0.0	99.24%	2346.0	15.0	8.0	9.0	10.0	9.5	0.0	99.66%	50.00	500	Jose Nava
8-Apr	563.0	8.0	8.0	5.0	4.0	11.0	7.5	0.0	99.11%	15500.0	4.0	4.0	3.0	12.0	7.5	0.0	99.97%	50.00	500	Josh Baydo
9-Apr	400.0	10.0	10.0	6.0	4.0	8.0	6.0	0.0	98.50%	1748.0	7.0	6.0	5.0	13.0	9.0	0.0	99.66%	50.00	500	Marcus Morris
10-Apr	423.0	9.0	9.0	3.0	3.0	8.0	5.5	0.0	99.29%	5138.0	7.0	7.0	4.0	12.0	8.0	0.0	99.86%	50.00	500	Josh Baydo
11-Apr	295.0	8.0	8.0	4.0	4.0	9.0	6.5	0.0	98.64%	10000.0	5.0	5.0	3.0	11.0	7.0	0.0	99.95%	50.00	500	Josh Baydo
12-Apr	271.0	7.0	7.0	4.0	3.0	9.0	6.0	0.0	98.52%	7320.0	6.0	6.0	4.0	11.0	7.5	0.0	99.92%	50.00	500	Josh Baydo
13-Apr	350.0	4.0	4.0	2.0	3.0	7.0	5.0	0.0	99.43%	5320.0	7.0	6.0	4.0	11.0	7.5	0.0	99.89%	50.00	500	Isaac Sanchez
14-Apr	337.0	9.0	9.0	5.0	3.0	10.0	6.5	0.0	98.52%	4341.0	7.0	6.0	7.0	19.0	13.0	0.0	99.86%	50.00	500	Isaac Sanchez
15-Apr	249.0	6.0	6.0	4.0	4.0	5.0	4.5	0.0	98.39%	6981.0	12.0	8.0	8.0	10.0	9.0	0.0	99.89%	50.00	500	Eduardo Chavez
16-Apr	401.0	3.0	3.0	1.0	2.0	6.0	4.0	0.0	99.75%	8600.0	15.0	9.0	5.0	9.0	7.0	2.0	99.90%	50.00	500	Eduardo Chavez
17-Apr	241.0	5.0	5.0	3.0	3.0	5.0	4.0	0.0	98.76%	3314.0	11.0	8.0	5.0	11.0	8.0	0.0	99.76%	50.00	500	Isaac Sanchez
18-Apr	167.0	4.0	4.0	2.0	2.0	7.0	4.5	0.0	98.80%	4716.0	16.0	10.0	5.0	13.0	9.0	1.0	99.79%	50.00	500	Eduardo Chavez
19-Apr	172.0	5.0	5.0	8.0	9.0	25.0	17.0	0.0	95.35%	8114.0	23.0	17.0	14.0	31.0	22.5	0.0	99.79%	50.00	500	Eduardo Chavez
20-Apr	247.0	9.0	9.0	5.0	7.0	18.0	12.5	0.0	97.98%	9942.0	34.0	11.0	13.0	26.0	19.5	0.0	99.89%	50.00	500	Oni Ruiz
21-Apr	265.0	8.0	8.0	4.0	3.0	16.0	9.5	0.0	98.49%	8963.0	21.0	7.0	19.0	24.0	21.5	0.0	99.92%	50.00	500	Oni Ruiz
22-Apr	267.0	6.0	6.0	4.0	5.0	9.0	7.0	0.0	98.50%	5243.0	10.0	7.0	9.0	11.0	10.0	0.0	99.87%	50.00	500	Jerid Heath
23-Apr	329.0	5.0	5.0	7.0	7.0	9.0	8.0	0.0	97.87%	4289.0	12.0	11.0	9.0	10.0	9.5	1.5	99.74%	50.00	500	Jerid Heath
24-Apr	162.0	8.0	8.0	6.0	4.0	7.0	5.5	0.5	96.30%	6640.0	11.0	9.0	9.0	13.0	11.0	0.0	99.86%	50.00	500	Eduardo Chavez
25-Apr	356.0	6.0	6.0	4.0	4.0	10.0	7.0	0.0	98.88%	4766.0	5.0	5.0	3.0	11.0	7.0	0.0	99.90%	50.00	500	Josh Baydo
26-Apr	257.0	5.0	5.0	6.0	5.0	6.0	5.5	0.5	97.67%	3386.0	10.0	12.0	9.0	11.0	10.0	2.0	99.65%	50.00	500	Jerid Heath
27-Apr	121.0	7.0	7.0	5.0	4.0	8.0	6.0	0.0	95.87%	4728.0	14.0	11.0	10.0	16.0	13.0	0.0	99.77%	50.00	500	Eduardo Chavez
28-Apr	214.0	7.0	7.0	3.0	4.0	12.0	8.0	0.0	98.60%	8661.0	19.0	14.0	8.0	15.0	11.5	2.5	99.84%	50.00	500	Eduardo Chavez
29-Apr	340.0	10.0	10.0	6.0	2.0	8.0	5.0	1.0	98.24%	732.0	7.0	5.0	5.0	11.0	8.0	0.0	99.32%	50.00	500	Marcus Morris
30-Apr	335.0	8.0	7.0	5.0	3.0	7.0	5.0	0.0	98.51%	8433.0	6.0	10.0	6.0	8.0	7.0	3.0	99.88%	50.00	500	Marcus Morris

2019 API Carbon Canister Monitoring for Month: May

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-May	394.0	9.0	5.0	10.0	3.0	7.0	5.0	5.0	97.46%	8495.0	5.0	4.0	4.0	9.0	6.5	0.0	99.95%	50.00	500	Marcus Morris
2-May	169.0	5.0	5.0	3.0	2.0	8.0	5.0	0.0	98.22%	5876.0	17.0	12.0	10.0	17.0	13.5	0.0	99.80%	50.00	500	Eduardo Chavez
3-May	413.0	11.0	10.0	6.0	7.0	9.0	8.0	0.0	98.55%	8116.0	7.0	5.0	6.0	8.0	7.0	0.0	99.94%	50.00	500	Marcus Morris
4-May	261.0	8.0	8.0	4.0	3.0	14.0	8.5	0.0	98.47%	3659.0	17.0	5.0	6.0	19.0	12.5	0.0	99.86%	50.00	500	Oni Ruiz
5-May	385.0	9.0	9.0	6.0	7.0	10.0	8.5	0.0	98.44%	4341.0	15.0	3.0	10.0	19.0	14.5	0.0	99.93%	50.00	500	Oni Ruiz
6-May	181.0	6.0	6.0	4.0	4.0	6.0	5.0	0.0	97.79%	5682.0	16.0	10.0	5.0	8.0	6.5	3.5	99.82%	50.00	500	Eduardo Chavez
7-May	70.0	9.0	9.0	3.0	2.0	7.0	4.5	0.0	95.71%	3126.0	5.0	5.0	6.0	16.0	11.0	0.0	99.84%	50.00	500	Isaac Sanchez
8-May	236.0	8.0	8.0	3.0	3.0	9.0	6.0	0.0	98.73%	3120.0	6.0	5.0	3.0	21.0	12.0	0.0	99.84%	50.00	500	Isaac Sanchez
9-May	298.0	10.0	10.0	3.0	2.0	8.0	5.0	0.0	98.99%	3516.0	5.0	5.0	4.0	18.0	11.0	0.0	99.86%	50.00	500	Isaac Sanchez
10-May	212.0	7.0	7.0	3.0	2.0	7.0	9.8	0.0	98.58%	3014.0	4.0	4.0	6.0	13.0	9.5	0.0	99.87%	50.00	500	Isaac Sanchez
11-May	391.0	9.0	9.0	6.0	8.0	25.0	16.5	0.0	98.47%	4687.0	23.0	7.0	10.0	21.0	15.5	0.0	99.85%	50.00	500	Oni Ruiz
12-May	284.0	7.0	7.0	5.0	3.0	14.0	8.5	0.0	98.24%	2571.0	16.0	4.0	3.0	10.0	6.5	0.0	99.84%	50.00	500	Oni Ruiz
13-May	341.0	6.0	6.0	5.0	8.0	14.0	11.0	0.0	98.53%	3671.0	8.0	6.0	10.0	19.0	14.5	0.0	99.84%	50.00	500	Carlos Martinez
14-May	157.0	4.0	4.0	6.0	7.0	9.0	8.0	0.0	96.18%	1781.0	5.0	4.0	8.0	21.0	14.5	0.0	99.78%	50.00	500	Carlos Martinez
15-May	203.0	3.0	3.0	5.0	5.0	7.0	6.0	0.0	97.54%	2361.0	7.0	5.0	9.0	17.0	13.0	0.0	99.79%	50.00	500	Carlos Martinez
16-May	328.0	6.0	6.0	5.0	6.0	10.0	8.0	0.0	98.48%	3211.0	7.0	5.0	8.0	15.0	11.5	0.0	99.84%	50.00	500	Marcus Morris
17-May	332.0	6.0	7.0	6.0	5.0	9.0	7.0	0.0	98.19%	4327.0	5.0	4.0	5.0	12.0	8.5	0.0	99.91%	50.00	500	Marcus Morris
18-May	281.0	5.0	5.0	6.0	4.0	7.0	5.5	0.5	97.86%	3211.0	7.0	5.0	8.0	15.0	11.5	0.0	99.84%	50.00	500	Carlos Martinez
19-May	298.0	9.0	9.0	5.0	6.0	23.0	14.5	0.0	98.32%	3877.0	16.0	3.0	10.0	13.0	11.5	0.0	99.92%	50.00	500	Oni Ruiz
20-May	211.0	7.0	7.0	4.0	4.0	6.0	5.0	0.0	98.10%	4619.0	8.0	4.0	6.0	12.0	9.0	0.0	99.91%	50.00	500	Eduardo Chavez
21-May	346.0	7.0	7.0	6.0	4.0	12.0	8.0	0.0	98.27%	3648.0	10.0	6.0	8.0	15.0	11.5	0.0	99.84%	50.00	500	Eduardo Chavez
22-May	177.0	9.0	9.0	6.0	3.0	7.0	5.0	1.0	96.61%	5699.0	15.0	12.0	7.0	14.0	10.5	1.5	99.79%	50.00	500	Eduardo Chavez
23-May	214.0	8.0	8.0	5.0	2.0	7.0	4.5	0.5	97.66%	4512.0	11.0	8.0	9.0	12.0	10.5	0.0	99.82%	50.00	500	Eduardo Chavez
24-May	208.0	6.0	6.0	4.0	5.0	7.0	6.0	0.0	98.08%	3410.0	14.0	11.0	6.0	16.0	11.0	0.0	99.68%	50.00	500	Eduardo Chavez
25-May	198.0	8.0	8.0	5.0	3.0	6.0	4.5	0.5	97.47%	4368.0	9.0	6.0	7.0	12.0	9.5	0.0	99.86%	50.00	500	Eduardo Chavez
26-May	168.0	6.0	6.0	4.0	3.0	9.0	6.0	0.0	97.62%	3481.0	15.0	10.0	7.0	14.0	10.5	0.0	99.71%	50.00	500	Eduardo Chavez
27-May	493.0	10.0	10.0	5.0	3.0	7.0	5.0	0.0	98.99%	3616.0	9.0	9.0	5.0	13.0	9.0	0.0	99.75%	50.00	500	Isaac Sanchez
28-May	542.0	6.0	5.0	8.0	4.0	11.0	7.5	0.5	98.52%	6492.0	4.0	4.0	5.0	13.0	9.0	0.0	99.94%	50.00	500	Josh Baydo
29-May	290.0	14.0	13.0	8.0	15.0	165.0	90.0	0.0	97.24%	4378.0	13.0	10.0	10.0	11.0	10.5	0.0	99.77%	50.00	500	Marcus Morris
30-May	385.0	7.0	7.0	4.0	4.0	12.0	8.0	0.0	98.96%	4905.0	5.0	7.0	5.0	14.0	9.5	0.0	99.86%	50.00	500	Josh Baydo
31-May	247.0	13.0	13.0	5.0	2.0	7.0	4.5	0.5	97.98%	3027.0	5.0	5.0	11.0	19.0	15.0	0.0	99.83%	50.00	500	Isaac Sanchez

2019 API Carbon Canister Monitoring for Month:

June

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Jun	315.0	9.0	9.0	3.0	2.0	7.0	4.5	0.0	99.05%	3316.0	4.0	4.0	5.0	13.0	9.0	0.0	99.88%	50.00	500	Isaac Sanchez
2-Jun	234.0	11.0	11.0	3.0	3.0	11.0	7.0	0.0	98.72%	2141.0	7.0	7.0	5.0	16.0	10.5	0.0	99.67%	50.00	500	Isaac Sanchez
3-Jun	201.0	4.0	4.0	3.0	3.0	9.0	6.0	0.0	98.51%	5342.0	6.0	6.0	4.0	11.0	7.5	0.0	99.89%	50.00	500	Josh Baydo
4-Jun	366.0	7.0	7.0	4.0	4.0	10.0	7.0	0.0	98.91%	5329.0	8.0	5.0	7.0	14.0	10.5	0.0	99.91%	50.00	500	Marcus Morris
5-Jun	274.0	8.0	8.0	3.0	6.0	7.0	6.5	0.0	98.91%	2751.0	11.0	5.0	10.0	18.0	14.0	0.0	99.82%	50.00	500	Oni Ruiz
6-Jun	384.0	9.0	9.0	4.0	2.0	4.0	3.0	1.0	98.96%	3311.0	19.0	5.0	7.0	10.0	8.5	0.0	99.85%	50.00	500	Oni Ruiz
7-Jun	388.0	9.0	9.0	3.0	2.0	6.0	4.0	0.0	99.23%	3891.0	22.0	7.0	9.0	24.0	16.5	0.0	99.82%	50.00	500	Oni Ruiz
8-Jun	231.0	8.0	8.0	4.0	3.0	5.0	4.0	0.0	98.27%	2219.0	13.0	4.0	7.0	10.0	8.5	0.0	99.82%	50.00	500	Oni Ruiz
9-Jun	291.0	5.0	5.0	4.0	6.0	12.0	9.0	0.0	98.63%	4781.0	7.0	4.0	8.0	19.0	13.5	0.0	99.92%	50.00	500	Carlos Martinez
10-Jun	329.0	6.0	6.0	5.0	5.0	7.0	6.0	0.0	98.48%	5287.0	11.0	10.0	8.0	9.0	8.5	1.5	99.81%	50.00	500	Jerid Heath
11-Jun	349.0	7.0	7.0	6.0	5.0	7.0	6.0	0.0	98.28%	3433.0	11.0	9.0	8.0	9.0	8.5	0.5	99.74%	50.00	500	Jerid Heath
12-Jun	426.0	5.0	5.0	7.0	6.0	8.0	7.0	0.0	98.36%	4289.0	10.0	8.0	9.0	11.0	10.0	0.0	99.81%	50.00	500	Jerid Heath
13-Jun	439.0	7.0	7.0	9.0	8.0	10.0	9.0	0.0	97.95%	6749.0	12.0	10.0	10.0	13.0	11.5	0.0	99.85%	50.00	500	Jerid Heath
14-Jun	328.0	8.0	8.0	1.0	7.0	9.0	8.0	0.0	99.70%	4306.0	10.0	9.0	10.0	11.0	10.5	0.0	99.79%	50.00	500	Jerid Heath
15-Jun	717.0	4.0	4.0	2.0	4.0	7.0	5.5	0.0	99.72%	4378.0	7.0	4.0	8.0	19.0	13.5	0.0	99.91%	50.00	500	Carlos Martinez
16-Jun	412.0	6.0	6.0	4.0	7.0	12.0	9.5	0.0	99.03%	4356.0	8.0	4.0	9.0	17.0	13.0	0.0	99.91%	50.00	500	Carlos Martinez
17-Jun	300.0	7.0	7.0	3.0	2.0	7.0	4.5	0.0	99.00%	3117.0	7.0	4.0	5.0	13.0	9.0	0.0	99.87%	50.00	500	Isaac Sanchez
18-Jun	201.0	7.0	7.0	3.0	2.0	7.0	4.5	0.0	98.51%	2132.0	5.0	5.0	4.0	17.0	10.5	0.0	99.77%	50.00	500	Isaac Sanchez
19-Jun	199.0	9.0	9.0	3.0	4.0	6.0	5.0	0.0	98.49%	2117.0	4.0	4.0	7.0	14.0	10.5	0.0	99.81%	50.00	500	Isaac Sanchez
20-Jun	379.0	8.0	8.0	3.0	3.0	7.0	5.0	0.0	99.21%	2617.0	4.0	5.0	6.0	14.0	10.0	0.0	99.81%	50.00	500	Isaac Sanchez
21-Jun	189.0	11.0	11.0	4.0	2.0	6.0	4.0	0.0	97.88%	2014.0	5.0	6.0	2.0	14.0	8.0	0.0	99.70%	50.00	500	Isaac Sanchez
22-Jun	416.0	12.0	12.0	3.0	4.0	11.0	7.5	0.0	99.28%	3714.0	16.0	9.0	8.0	19.0	13.5	0.0	99.76%	50.00	500	Isaac Sanchez
23-Jun	560.0	14.0	14.0	4.0	6.0	12.0	9.0	0.0	99.29%	3416.0	6.0	5.0	14.0	19.0	16.5	0.0	99.85%	50.00	500	Isaac Sanchez
24-Jun	184.0	6.0	6.0	4.0	4.0	10.0	7.0	0.0	97.83%	3680.0	17.0	11.0	6.0	18.0	12.0	0.0	99.70%	50.00	500	Eduardo Chavez
25-Jun	318.0	5.0	5.0	6.0	4.0	10.0	7.0	0.0	98.11%	5362.0	4.0	4.0	5.0	13.0	9.0	0.0	99.93%	50.00	500	Josh Baydo
26-Jun	411.0	8.0	8.0	3.0	6.0	11.0	8.5	0.0	99.27%	6429.0	9.0	6.0	8.0	13.0	10.5	0.0	99.91%	50.00	500	Marcus Morris
27-Jun	432.0	6.0	6.0	5.0	2.0	8.0	5.0	0.0	98.84%	7612.0	4.0	4.0	3.0	10.0	6.5	0.0	99.95%	50.00	500	Josh Baydo
28-Jun	518.0	4.0	4.0	3.0	3.0	10.0	6.5	0.0	99.42%	3512.0	3.0	3.0	3.0	13.0	8.0	0.0	99.91%	50.00	500	Josh Baydo
29-Jun	396.0	9.0	9.0	4.0	6.0	18.0	12.0	0.0	98.99%	3261.0	18.0	5.0	7.0	14.0	10.5	0.0	99.85%	50.00	500	Oni Ruiz
30-Jun	281.0	7.0	7.0	4.0	3.0	8.0	5.5	0.0	98.58%	2469.0	17.0	3.0	6.0	9.0	7.5	0.0	99.88%	50.00	500	Oni Ruiz

2019 API Carbon Canister Monitoring for Month:

July

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Jul	420.0	7.0	7.0	4.0	2.0	11.0	6.5	0.0	99.05%	5121.0	11.0	10.0	22.0	40.0	31.0	0.0	99.80%	50.00	500	Isaac Sanchez
2-Jul	387.0	8.0	9.0	5.0	6.0	13.0	9.5	0.0	98.71%	6482.0	10.0	6.0	8.0	15.0	11.5	0.0	99.91%	50.00	500	Marcus Morris
3-Jul	342.0	8.0	9.0	5.0	4.0	12.0	8.0	0.0	98.54%	7843.0	9.0	6.0	9.0	16.0	12.5	0.0	99.92%	50.00	500	Marcus Morris
4-Jul	276.0	8.0	8.0	4.0	2.0	7.0	4.5	0.0	98.55%	2654.0	11.0	55.0	5.0	14.0	9.5	45.5	97.93%	50.00	500	Oni Ruiz
5-Jul	345.0	6.0	6.0	4.0	4.0	11.0	7.5	0.0	98.84%	4920.0	5.0	4.0	3.0	12.0	7.5	0.0	99.92%	50.00	500	Josh Baydo
6-Jul	377.0	9.0	9.0	5.0	8.0	26.0	17.0	0.0	98.67%	3376.0	13.0	3.0	4.0	7.0	5.5	0.0	99.91%	50.00	500	Oni Ruiz
7-Jul	291.0	7.0	7.0	4.0	3.0	6.0	4.5	0.0	98.63%	2618.0	11.0	6.0	10.0	16.0	13.0	0.0	99.77%	50.00	500	Oni Ruiz
8-Jul	342.0	8.0	7.0	5.0	5.0	12.0	8.5	0.0	98.54%	5328.0	7.0	4.0	7.0	13.0	10.0	0.0	99.92%	50.00	500	Marcus Morris
9-Jul	422.0	7.0	7.0	8.0	5.0	11.0	8.0	0.0	98.10%	5331.0	5.0	4.0	7.0	12.0	9.5	0.0	99.92%	50.00	500	Marcus Morris
10-Jul	487.0	5.0	5.0	6.0	3.0	11.0	7.0	0.0	98.77%	6138.0	6.0	6.0	4.0	12.0	8.0	0.0	99.90%	50.00	500	Josh Baydo
11-Jul	424.0	4.0	4.0	3.0	2.0	9.0	5.5	0.0	99.29%	5123.0	5.0	5.0	3.0	11.0	7.0	0.0	99.90%	50.00	500	Josh Baydo
12-Jul	241.0	4.0	4.0	5.0	3.0	8.0	5.5	0.0	97.93%	5124.0	6.0	6.0	4.0	13.0	8.5	0.0	99.88%	50.00	500	Josh Baydo
13-Jul	316.0	10.0	10.0	4.0	3.0	11.0	7.0	0.0	98.73%	3617.0	4.0	4.0	3.0	19.0	11.0	0.0	99.89%	50.00	500	Isaac Sanchez
14-Jul	562.0	8.0	8.0	6.0	5.0	9.0	7.0	0.0	98.93%	3714.0	8.0	8.0	14.0	22.0	18.0	0.0	99.78%	50.00	500	Isaac Sanchez
15-Jul	310.0	8.0	8.0	5.0	4.0	10.0	7.0	0.0	98.39%	2771.0	18.0	4.0	10.0	14.0	12.0	0.0	99.86%	50.00	500	Oni Ruiz
16-Jul	274.0	9.0	9.0	3.0	3.0	6.0	4.5	0.0	98.91%	2891.0	16.0	4.0	7.0	12.0	9.5	0.0	99.86%	50.00	500	Oni Ruiz
17-Jul	321.0	4.0	4.0	5.0	3.0	10.0	6.5	0.0	98.44%	6941.0	5.0	5.0	4.0	13.0	8.5	0.0	99.93%	50.00	500	Marcus Morris
18-Jul							No Data	No Data							No Data	No Data		50.00	500	
19-Jul	216.0	5.0	5.0	3.0	3.0	8.0	5.5	0.0	98.61%	3650.0	12.0	9.0	6.0	12.0	9.0	0.0	99.75%	50.00	500	Eduardo Chavez
20-Jul	388.0	8.0	8.0	4.0	6.0	7.0	6.5	0.0	98.97%	3744.0	18.0	5.0	12.0	26.0	19.0	0.0	99.87%	50.00	500	Oni Ruiz
21-Jul	469.0	10.0	10.0	8.0	14.0	32.0	23.0	0.0	98.29%	4955.0	27.0	6.0	23.0	39.0	31.0	0.0	99.88%	50.00	500	Oni Ruiz
22-Jul	192.0	6.0	6.0	4.0	3.0	12.0	7.5	0.0	97.92%	1653.0	7.0	5.0	5.0	8.0	6.5	0.0	99.70%	50.00	500	Carlos Martinez
23-Jul	203.0	6.0	6.0	5.0	4.0	7.0	5.5	0.0	97.54%	2365.0	8.0	4.0	8.0	13.0	10.5	0.0	99.83%	50.00	500	Carlos Martinez
24-Jul	312.0	6.0	7.0	5.0	6.0	9.0	7.5	0.0	98.40%	2763.0	8.0	5.0	12.0	15.0	13.5	0.0	99.82%	50.00	500	Carlos Martinez
25-Jul	198.0	5.0	5.0	4.0	4.0	6.0	5.0	0.0	97.98%	3311.0	10.0	7.0	7.0	10.0	8.5	0.0	99.79%	50.00	500	Carlos Martinez
26-Jul	203.0	6.0	6.0	6.0	4.0	8.0	6.0	0.0	97.04%	2789.0	10.0	5.0	7.0	13.0	10.0	0.0	99.82%	50.00	500	Carlos Martinez
27-Jul	201.0	4.0	4.0	3.0	4.0	9.0	6.5	0.0	98.51%	2789.0	7.0	5.0	7.0	12.0	9.5	0.0	99.82%	50.00	500	Carlos Martinez
28-Jul	233.0	5.0	5.0	4.0	3.0	5.0	4.0	0.0	98.28%	2781.0	9.0	5.0	7.0	10.0	8.5	0.0	99.82%	50.00	500	Carlos Martinez
29-Jul	274.0	8.0	8.0	3.0	6.0	9.0	7.5	0.0	98.91%	2861.0	22.0	5.0	7.0	13.0	10.0	0.0	99.83%	50.00	500	Oni Ruiz
30-Jul	293.0	6.0	6.0	5.0	4.0	7.0	5.5	0.0	98.29%	2789.0	9.0	7.0	7.0	10.0	8.5	0.0	99.75%	50.00	500	Carlos Martinez
31-Jul	261.0	7.0	7.0	4.0	2.0	7.0	4.5	0.0	98.47%	3114.0	16.0	7.0	5.0	8.0	6.5	0.5	99.78%	50.00	500	Eduardo Chavez

18-Jul Plant was down due to power outage. Units were not giving permits for the day.

2019 API Carbon Canister Monitoring for Month:

August

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Aug	384.0	8.0	8.0	5.0	5.0	12.0	8.5	0.0	98.70%	7329.0	9.0	7.0	9.0	15.0	12.0	0.0	99.90%	50.00	500	Marcus Morris
2-Aug	311.0	8.0	8.0	3.0	4.0	9.0	6.5	0.0	99.04%	2179.0	16.0	2.0	10.0	14.0	12.0	0.0	99.91%	50.00	500	Oni Ruiz
3-Aug	377.0	9.0	9.0	6.0	7.0	13.0	10.0	0.0	98.41%	2965.0	19.0	4.0	4.0	10.0	7.0	0.0	99.87%	50.00	500	Oni Ruiz
4-Aug	359.0	7.0	7.0	3.0	2.0	6.0	4.0	0.0	99.16%	2391.0	16.0	4.0	7.0	16.0	11.5	0.0	99.83%	50.00	500	Oni Ruiz
5-Aug	281.0	9.0	9.0	5.0	7.0	9.0	8.0	0.0	98.22%	2311.0	14.0	3.0	7.0	7.0	7.0	0.0	99.87%	50.00	500	Oni Ruiz
6-Aug	264.0	6.0	6.0	3.0	7.0	8.0	7.5	0.0	98.86%	2589.0	17.0	4.0	13.0	24.0	18.5	0.0	99.85%	50.00	500	Oni Ruiz
7-Aug	413.0	7.0	7.0	2.0	6.0	9.0	7.5	0.0	99.52%	2855.0	23.0	5.0	12.0	20.0	16.0	0.0	99.82%	50.00	500	Oni Ruiz
8-Aug	437.0	9.0	9.0	4.0	7.0	8.0	7.5	0.0	99.08%	2988.0	28.0	6.0	14.0	17.0	15.5	0.0	99.80%	50.00	500	Oni Ruiz
9-Aug	357.0	8.0	8.0	4.0	3.0	6.0	4.5	0.0	98.88%	2614.0	16.0	3.0	10.0	11.0	10.5	0.0	99.89%	50.00	500	Oni Ruiz
10-Aug	411.0	7.0	7.0	4.0	3.0	6.0	4.5	0.0	99.03%	2987.0	9.0	4.0	6.0	10.0	8.0	0.0	99.87%	50.00	500	Oni Ruiz
11-Aug	375.0	9.0	9.0	3.0	4.0	5.0	4.5	0.0	99.20%	2714.0	17.0	5.0	10.0	12.0	11.0	0.0	99.82%	50.00	500	Oni Ruiz
12-Aug	211.0	5.0	5.0	4.0	5.0	9.0	7.0	0.0	98.10%	3321.0	8.0	5.0	7.0	12.0	9.5	0.0	99.85%	50.00	500	Carlos Martinez
13-Aug	330.0	10.0	10.0	3.0	3.0	7.0	5.0	0.0	99.09%	3014.0	7.0	5.0	8.0	15.0	11.5	0.0	99.83%	50.00	500	Isaac Sanchez
14-Aug	271.0	8.0	8.0	4.0	3.0	9.0	6.0	0.0	98.52%	2614.0	4.0	4.0	7.0	14.0	10.5	0.0	99.85%	50.00	500	Isaac Sanchez
15-Aug	281.0	5.0	5.0	4.0	7.0	9.0	8.0	0.0	98.58%	2374.0	6.0	4.0	10.0	13.0	11.5	0.0	99.83%	50.00	500	Carlos Martinez
16-Aug	370.0	6.0	9.0	5.0	4.0	12.0	8.0	0.0	98.65%	5576.0	6.0	6.0	8.0	17.0	12.5	0.0	99.89%	50.00	500	Jewel Hussalman
17-Aug	316.0	9.0	9.0	3.0	2.0	8.0	5.0	0.0	99.05%	3671.0	5.0	4.0	4.0	12.0	8.0	0.0	99.89%	50.00	500	Isaac Sanchez
18-Aug	380.0	13.0	13.0	3.0	2.0	4.0	3.0	0.0	99.21%	3124.0	4.0	4.0	8.0	19.0	13.5	0.0	99.87%	50.00	500	Isaac Sanchez
19-Aug	315.0	6.0	6.0	4.0	4.0	6.0	5.0	0.0	98.73%	3912.0	12.0	9.0	9.0	14.0	11.5	0.0	99.77%	50.00	500	Eduardo Chavez
20-Aug	395.0	9.0	9.0	5.0	5.0	11.0	8.0	0.0	98.73%	6437.0	8.0	5.0	7.0	14.0	10.5	0.0	99.92%	50.00	500	Marcus Morris
21-Aug	430.0	11.0	11.0	2.0	3.0	9.0	6.0	0.0	99.53%	3019.0	5.0	4.0	6.0	20.0	13.0	0.0	99.87%	50.00	500	Isaac Sanchez
22-Aug	179.0	6.0	6.0	4.0	6.0	10.0	8.0	0.0	97.77%	3244.0	7.0	5.0	7.0	13.0	10.0	0.0	99.85%	50.00	500	Carlos Martinez
23-Aug	193.0	4.0	4.0	3.0	4.0	9.0	6.5	0.0	98.45%	2457.0	12.0	6.0	12.0	16.0	14.0	0.0	99.76%	50.00	500	Carlos Martinez
24-Aug	497.0	10.0	11.0	4.0	2.0	11.0	6.5	0.0	99.20%	4617.0	5.0	5.0	10.0	24.0	17.0	0.0	99.89%	50.00	500	Isaac Sanchez
25-Aug	856.0	8.0	7.0	5.0	3.0	7.0	5.0	0.0	99.42%	5714.0	9.0	8.0	6.0	23.0	14.5	0.0	99.86%	50.00	500	Isaac Sanchez
26-Aug	375.0	9.0	8.0	6.0	6.0	11.0	8.5	0.0	98.40%	7329.0	7.0	4.0	6.0	13.0	9.5	0.0	99.95%	50.00	500	Marcus Morris
27-Aug	347.0	10.0	10.0	3.0	2.0	10.0	6.0	0.0	99.14%	4617.0	5.0	6.0	7.0	19.0	13.0	0.0	99.87%	50.00	500	Isaac Sanchez
28-Aug	381.0	11.0	9.0	5.0	6.0	19.0	12.5	0.0	98.69%	2659.0	17.0	3.0	4.0	26.0	15.0	0.0	99.89%	50.00	500	Oni Ruiz
29-Aug	412.0	7.0	7.0	4.0	5.0	9.0	7.0	0.0	99.03%	3146.0	15.0	5.0	6.0	11.0	8.5	0.0	99.84%	50.00	500	Josh Baydo
30-Aug	357.0	4.0	4.0	3.0	5.0	10.0	14.0	0.0	99.16%	5126.0	4.0	3.0	5.0	13.0	9.0	0.0	99.94%	50.00	500	Josh Baydo
31-Aug	387.0	9.0	9.0	5.0	6.0	18.0	12.0	0.0	98.71%	2954.0	19.0	4.0	10.0	27.0	18.5	0.0	99.86%	50.00	500	Oni Ruiz

2019 API Carbon Canister Monitoring for Month:

September

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Sep	478.0	9.0	9.0	6.0	10.0	36.0	23.0	0.0	98.74%	3351.0	21.0	5.0	16.0	41.0	28.5	0.0	99.85%	50.00	500	Oni Ruz
2-Sep	416.0	8.0	8.0	4.0	12.0	25.0	18.5	0.0	99.04%	2795.0	19.0	4.0	12.0	30.0	21.0	0.0	99.86%	50.00	500	Oni Ruz
3-Sep	289.0	5.0	5.0	4.0	7.0	15.0	11.0	0.0	98.62%	8952.0	6.0	6.0	8.0	18.0	13.0	0.0	99.93%	50.00	500	Marcus Morris
4-Sep	295.0	6.0	6.0	5.0	8.0	14.0	11.0	0.0	98.31%	9842.0	6.0	4.0	6.0	12.0	9.0	0.0	99.96%	50.00	500	Marcus Morris
5-Sep	286.0	9.0	9.0	3.0	6.0	13.0	9.5	0.0	98.95%	4817.0	9.0	5.0	7.0	18.0	12.5	0.0	99.90%	50.00	500	Marcus Morris
6-Sep	239.0	5.0	5.0	4.0	6.0	8.0	7.0	0.0	98.33%	3247.0	17.0	8.0	7.0	19.0	13.0	0.0	99.75%	50.00	500	Jerid Heath
7-Sep	243.0	7.0	7.0	6.0	8.0	15.0	11.5	0.0	97.53%	3272.0	15.0	7.0	8.0	23.0	15.5	0.0	99.79%	50.00	500	Jewel Husselman
8-Sep	253.0	10.0	9.0	8.0	10.0	17.0	13.5	0.0	96.84%	3294.0	18.0	9.0	14.0	32.0	23.0	0.0	99.73%	50.00	500	Jewel Husselman
9-Sep	412.0	9.0	9.0	5.0	10.0	18.0	14.0	0.0	98.79%	2761.0	17.0	4.0	7.0	9.0	8.0	0.0	99.86%	50.00	500	Eduardo Chavez
10-Sep	386.0	7.0	7.0	4.0	8.0	16.0	12.0	0.0	98.96%	3961.0	12.0	6.0	6.0	19.0	12.5	0.0	99.85%	50.00	500	Eduardo Chavez
11-Sep	410.0	9.0	9.0	6.0	6.0	14.0	10.0	0.0	98.54%	4716.0	12.0	7.0	9.0	15.0	12.0	0.0	99.85%	50.00	500	Eduardo Chavez
12-Sep	331.0	7.0	7.0	3.0	4.0	9.0	6.5	0.0	99.09%	2477.0	16.0	5.0	10.0	13.0	11.5	0.0	99.80%	50.00	500	Oni Ruz
13-Sep	370.0	8.0	8.0	4.0	4.0	20.0	12.0	0.0	98.92%	2638.0	19.0	5.0	4.0	20.0	12.0	0.0	99.81%	50.00	500	Oni Ruz
14-Sep	291.0	6.0	6.0	4.0	3.0	7.0	5.0	0.0	98.63%	2266.0	14.0	5.0	10.0	12.0	11.0	0.0	99.78%	50.00	500	Oni Ruz
15-Sep	398.0	9.0	9.0	5.0	7.0	14.0	10.5	0.0	98.74%	3247.0	19.0	5.0	13.0	21.0	17.0	0.0	99.85%	50.00	500	Oni Ruz
16-Sep	411.0	8.0	8.0	5.0	6.0	10.0	8.0	0.0	98.78%	2963.0	17.0	4.0	11.0	18.0	14.5	0.0	99.87%	50.00	500	Oni Ruz
17-Sep	263.0	7.0	7.0	3.0	5.0	4.0	4.5	0.0	98.86%	2140.0	13.0	4.0	8.0	10.0	9.0	0.0	99.81%	50.00	500	Oni Ruz
18-Sep	377.0	9.0	9.0	6.0	3.0	15.0	9.0	0.0	98.41%	2659.0	17.0	4.0	5.0	17.0	11.0	0.0	99.85%	50.00	500	Oni Ruz
19-Sep	271.0	6.0	6.0	5.0	7.0	13.0	10.0	0.0	98.15%	3276.0	7.0	4.0	10.0	15.0	12.5	0.0	99.88%	50.00	500	Carlos Martinez
20-Sep	198.0	4.0	4.0	3.0	3.0	9.0	6.0	0.0	98.48%	5711.0	5.0	3.0	8.0	12.0	10.0	0.0	99.95%	50.00	500	Carlos Martinez
21-Sep	311.0	8.0	8.0	3.0	6.0	10.0	8.0	0.0	99.04%	2173.0	19.0	4.0	4.0	26.0	15.0	0.0	99.82%	50.00	500	Oni Ruz
22-Sep	355.0	9.0	9.0	4.0	3.0	7.0	5.0	0.0	98.87%	2369.0	17.0	5.0	10.0	11.0	10.5	0.0	99.79%	50.00	500	Oni Ruz
23-Sep	317.0	10.0	10.0	4.0	7.0	9.0	8.0	0.0	98.74%	2172.0	17.0	6.0	4.0	32.0	18.0	0.0	99.72%	50.00	500	Jewel Husselman
24-Sep	203.0	6.0	6.0	5.0	5.0	8.0	6.5	0.0	97.54%	4711.0	9.0	5.0	7.0	16.0	11.5	0.0	99.89%	50.00	500	Carlos Martinez
25-Sep	316.0	10.0	9.0	4.0	2.0	9.0	5.5	0.0	98.73%	3015.0	5.0	5.0	10.0	17.0	13.5	0.0	99.83%	50.00	500	Isaac Sanchez
26-Sep	197.0	5.0	5.0	4.0	6.0	12.0	9.0	0.0	97.97%	3487.0	8.0	6.0	8.0	14.0	11.0	0.0	99.83%	50.00	500	Carlos Martinez
27-Sep	178.0	6.0	6.0	5.0	6.0	7.0	6.5	0.0	97.19%	4678.0	6.0	4.0	12.0	19.0	15.5	0.0	99.91%	50.00	500	Carlos Martinez
28-Sep	197.0	4.0	4.0	4.0	5.0	7.0	6.0	0.0	97.97%	3411.0	10.0	8.0	7.0	18.0	12.5	0.0	99.77%	50.00	500	Carlos Martinez
29-Sep	210.0	4.0	4.0	3.0	4.0	7.0	5.5	0.0	98.57%	4387.0	8.0	4.0	8.0	13.0	10.5	0.0	99.91%	50.00	500	Carlos Martinez
30-Sep	193.0	5.0	5.0	5.0	4.0	6.0	5.0	0.0	97.41%	3246.0	10.0	7.0	6.0	9.0	7.5	0.0	99.78%	50.00	500	Marcus Morris

2019 API Carbon Canister Monitoring for Month:

OCTOBER

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Oct							No Data	No Data							No Data	No Data		50.00	500	
2-Oct							No Data	No Data							No Data	No Data		50.00	500	
3-Oct							No Data	No Data							No Data	No Data		50.00	500	
4-Oct							No Data	No Data							No Data	No Data		50.00	500	
5-Oct							No Data	No Data							No Data	No Data		50.00	500	
6-Oct							No Data	No Data							No Data	No Data		50.00	500	
7-Oct							No Data	No Data							No Data	No Data		50.00	500	
8-Oct							No Data	No Data							No Data	No Data		50.00	500	
9-Oct							No Data	No Data							No Data	No Data		50.00	500	
10-Oct							No Data	No Data							No Data	No Data		50.00	500	
11-Oct							No Data	No Data							No Data	No Data		50.00	500	
12-Oct							No Data	No Data							No Data	No Data		50.00	500	
13-Oct							No Data	No Data							No Data	No Data		50.00	500	
14-Oct							No Data	No Data							No Data	No Data		50.00	500	
15-Oct							No Data	No Data							No Data	No Data		50.00	500	
16-Oct							No Data	No Data							No Data	No Data		50.00	500	
17-Oct							No Data	No Data							No Data	No Data		50.00	500	
18-Oct							No Data	No Data							No Data	No Data		50.00	500	
19-Oct							No Data	No Data							No Data	No Data		50.00	500	
20-Oct							No Data	No Data							No Data	No Data		50.00	500	
21-Oct							No Data	No Data							No Data	No Data		50.00	500	
22-Oct							No Data	No Data							No Data	No Data		50.00	500	
23-Oct							No Data	No Data							No Data	No Data		50.00	500	
24-Oct							No Data	No Data							No Data	No Data		50.00	500	
25-Oct							No Data	No Data							No Data	No Data		50.00	500	
26-Oct							8.0	0.0							No Data	No Data		50.00	500	
27-Oct							No Data	No Data							No Data	No Data		50.00	500	
28-Oct							No Data	No Data							No Data	No Data		50.00	500	
29-Oct							No Data	No Data							No Data	No Data		50.00	500	
30-Oct							No Data	No Data							No Data	No Data		50.00	500	
31-Oct							No Data	No Data							No Data	No Data		50.00	500	

2019 API Carbon Canister Monitoring for Month:

November

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Nov							No Data	No Data							No Data	No Data		50.00	500	
2-Nov							No Data	No Data							No Data	No Data		50.00	500	
3-Nov							No Data	No Data							No Data	No Data		50.00	500	
4-Nov							No Data	No Data							No Data	No Data		50.00	500	
5-Nov							No Data	No Data							No Data	No Data		50.00	500	
6-Nov							No Data	No Data							No Data	No Data		50.00	500	
7-Nov							No Data	No Data							No Data	No Data		50.00	500	
8-Nov							No Data	No Data							No Data	No Data		50.00	500	
9-Nov							No Data	No Data							No Data	No Data		50.00	500	
10-Nov							No Data	No Data							No Data	No Data		50.00	500	
11-Nov							No Data	No Data							No Data	No Data		50.00	500	
12-Nov							No Data	No Data							No Data	No Data		50.00	500	
13-Nov							No Data	No Data							No Data	No Data		50.00	500	
14-Nov							No Data	No Data							No Data	No Data		50.00	500	
15-Nov							No Data	No Data							No Data	No Data		50.00	500	
16-Nov							No Data	No Data							No Data	No Data		50.00	500	
17-Nov							No Data	No Data							No Data	No Data		50.00	500	
18-Nov							No Data	No Data							No Data	No Data		50.00	500	
19-Nov							No Data	No Data							No Data	No Data		50.00	500	
20-Nov							No Data	No Data							No Data	No Data		50.00	500	
21-Nov							No Data	No Data							No Data	No Data		50.00	500	
22-Nov							No Data	No Data							No Data	No Data		50.00	500	
23-Nov							No Data	No Data							No Data	No Data		50.00	500	
24-Nov							No Data	No Data							No Data	No Data		50.00	500	
25-Nov							No Data	No Data							No Data	No Data		50.00	500	
26-Nov							No Data	No Data							No Data	No Data		50.00	500	
27-Nov							No Data	No Data							No Data	No Data		50.00	500	
28-Nov							No Data	No Data							No Data	No Data		50.00	500	
29-Nov							No Data	No Data							No Data	No Data		50.00	500	
30-Nov							No Data	No Data							No Data	No Data		50.00	500	

2019 API Carbon Canister Monitoring for Month:

December

Monitoring Date	Old System Lead Filter Inlet	Old System Lead Filter Outlet	Old System Lag Filter Inlet	Old System Lag Filter Outlet	Old System Background Minimum	Old System Background Maximum	Old System Background Average	Old System Net Reading	Control Efficiency (%)	New System Lead Filter Inlet	New System Between Filters	New System Lag Filter Outlet	New System Background Minimum	New System Background Maximum	New System Background Average	New System Net Reading	Control Efficiency (%)	Low Range Monitoring Calibration Gas	High Range Monitoring Calibration Gas	Monitoring Technician Name
1-Dec							No Data	No Data							No Data	No Data		50.00	500	
2-Dec							No Data	No Data							No Data	No Data		50.00	500	
3-Dec							No Data	No Data							No Data	No Data		50.00	500	
4-Dec							No Data	No Data							No Data	No Data		50.00	500	
5-Dec							No Data	No Data							No Data	No Data		50.00	500	
6-Dec							No Data	No Data							No Data	No Data		50.00	500	
7-Dec							No Data	No Data							No Data	No Data		50.00	500	
8-Dec							No Data	No Data							No Data	No Data		50.00	500	
9-Dec							No Data	No Data							No Data	No Data		50.00	500	
10-Dec							No Data	No Data							No Data	No Data		50.00	500	
11-Dec							No Data	No Data							No Data	No Data		50.00	500	
12-Dec							No Data	No Data							No Data	No Data		50.00	500	
13-Dec							No Data	No Data							No Data	No Data		50.00	500	
14-Dec							No Data	No Data							No Data	No Data		50.00	500	
15-Dec							No Data	No Data							No Data	No Data		50.00	500	
16-Dec							No Data	No Data							No Data	No Data		50.00	500	
17-Dec							No Data	No Data							No Data	No Data		50.00	500	
18-Dec							No Data	No Data							No Data	No Data		50.00	500	
19-Dec							No Data	No Data							No Data	No Data		50.00	500	
20-Dec							No Data	No Data							No Data	No Data		50.00	500	
21-Dec							No Data	No Data							No Data	No Data		50.00	500	
22-Dec							No Data	No Data							No Data	No Data		50.00	500	
23-Dec							No Data	No Data							No Data	No Data		50.00	500	
24-Dec							No Data	No Data							No Data	No Data		50.00	500	
25-Dec							No Data	No Data							No Data	No Data		50.00	500	
26-Dec							No Data	No Data							No Data	No Data		50.00	500	
27-Dec							No Data	No Data							No Data	No Data		50.00	500	
28-Dec							No Data	No Data							No Data	No Data		50.00	500	
29-Dec							No Data	No Data							No Data	No Data		50.00	500	
30-Dec							No Data	No Data							No Data	No Data		50.00	500	
31-Dec							No Data	No Data							No Data	No Data		50.00	500	



REFINING COMPANY, L.P.

FAX

(505) 746-5283 DIV. ORDERS
(505) 746-5481 TRUCKING
(505) 746-5458 PERSONNEL

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159
TELEPHONE (505) 748-3311

FAX

(505) 746-5419 ACCOUNTING
(505) 746-5451 EXEC/MKTG
(505) 746-5421 ENGINEERING
(505) 746-5480 PIPELINE

March 31, 2004

COPY

U.S. Environmental Protection Agency
Director, Air Enforcement Division
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code 2242-A
Washington, DC 20460

CERTIFIED MAIL/RETURN RECEIPT

Re: Revised EOL Sampling Plan
Pursuant to the Consent Decree entered March 5, 2002 by the
U.S. District Court for the District of New Mexico in
United States of America et al. v. Navajo Refining Company, L.P. et al.

Dear Director:

Enclosed, please find Navajo Refining Company, L.P.'s revised End of Line (EOL) sampling plan for our Artesia, New Mexico facility. This EOL sampling plan is being submitted per the above referenced consent decree, paragraph 22.J.ii.

This revised EOL sampling plan reflects 1) the change in sampling points due to a reconfiguration of the wastewater treatment system for purposes of meeting NSPS Subpart QQQ, 2) a clarification of the method of calculating total API water effluent volume, and 3) EPA's comments on the proposed sampling plan provided in EPA's letter dated January 23, 2004.

We would be pleased to answer any questions EPA may have about this submission. If you have any questions, please contact me at 505-748-3311 or e-mail me at darrell.moore@navajo-refining.com

Sincerely,
NAVAJO REFINING COMPANY, LP

Darrell Moore
Environmental Manager for Water and Waste

An Independent Refinery Serving . . .
NEW MEXICO • ARIZONA • WEST TEXAS • NORTHERN MEXICO

Director EPA
March 19, 2004
Page 2

Enclosures

cc: Bureau Chief
Air Quality Bureau
New Mexico Environment Department
2048 Galisteo St.
Santa Fe, New Mexico 87505

General Counsel
Office of General Counsel
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502-6110

Chief
Air, Toxics, and Inspections Coordination Branch
Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

Director, Air Enforcement Division
U.S. Environmental Protection Agency
c/o Matrix Environmental & Geotechnical Services
120 Eagle Rock Avenue, 2nd Floor
East Hanover, NJ 07936

cc: Navajo: PLY, JER, DEW, FDG, RAS, SLB
Holly: WJG

Elec. cc: neichlin@matrixengineering.com (letter with Enclosures)
Jorquera.mario@epa.gov (letter with Enclosures)
Cannon.elizabeth@epa.gov (letter with Enclosures)

Envr. File:  22-


PROPOSED END-OF-LINE (EOL) DETERMINATION PLAN

NAVAJO REFINING COMPANY ARTESIA, NEW MEXICO

March 2004

I. INTRODUCTION

As required by its Consent Decree with EPA lodged on March 5, 2001, Navajo Refining Company (Navajo) is required to develop an End-Of-Line (EOL) Determination for any facility that has a Benzene Waste Operations NESHAP (BWON) Total Annual Benzene (TAB) Quantity greater than 1 Mg, but less than 10 Mg. Navajo's Artesia, New Mexico refinery has a TAB Quantity greater than 1 Mg, but less than 10 Mg. Therefore, this EOL Determination Plan was prepared for the Artesia refinery.

The EOL determination calculates a benzene quantity used by EPA to corroborate that the TAB quantity calculated at the point of generation of benzene wastes is roughly equivalent to the benzene quantity of wastes and wastewater collected at the outlet of the

facility after taking into account some volatilization of benzene in the oily sewer system and from handling of waste streams.

The total EOL benzene quantity shall be determined by quantifying the total mass of benzene in various streams exiting the wastewater treatment system and adding benzene quantities leaving the refinery in other streams, including that from aqueous wastes that are managed in a contractor owned and operated oil recovery process for wastewater sludges along with other oily wastes generated in the refinery. This contractor process recovers oil and water from the waste streams and returns it to the WW API and generates a semi-solid sludge that is reconstituted with slurry oil (for heating value) and is sent off-site as supplemental fuel for cement kilns. The final cement kiln fuel product generated by the contractor process will be quantified and sampled for benzene concentration and will be added to the EOL benzene quantity. Additionally, waste caustic, generated in some of the refinery processes and then sent offsite for recovery, will be assessed for total benzene and that quantity will be added to the total mass of benzene.

The mathematical representation of the EOL Determination Plan can be found in the equation below:

$$\begin{aligned} \text{EOL} = & (Q_{\text{API Discharge Water}} \times C_{\text{Benzene}}) + (Q_{\text{API Recovered Oil}} \times C_{\text{Benzene}}) \\ & + (Q_{\text{Aqueous Waste Caustic}} \times C_{\text{Benzene}}) + (Q_{\text{Waste Caustic Hydrocarbon}} \times C_{\text{Benzene}}) \\ & + (Q_{\text{Centrifuge Sludge}} \times C_{\text{Benzene}}) \end{aligned}$$

EOL = End-of-Line benzene quantity (pounds per quarter)

Q = Flow (pounds per quarter)

C = Concentration Benzene (ppmw)

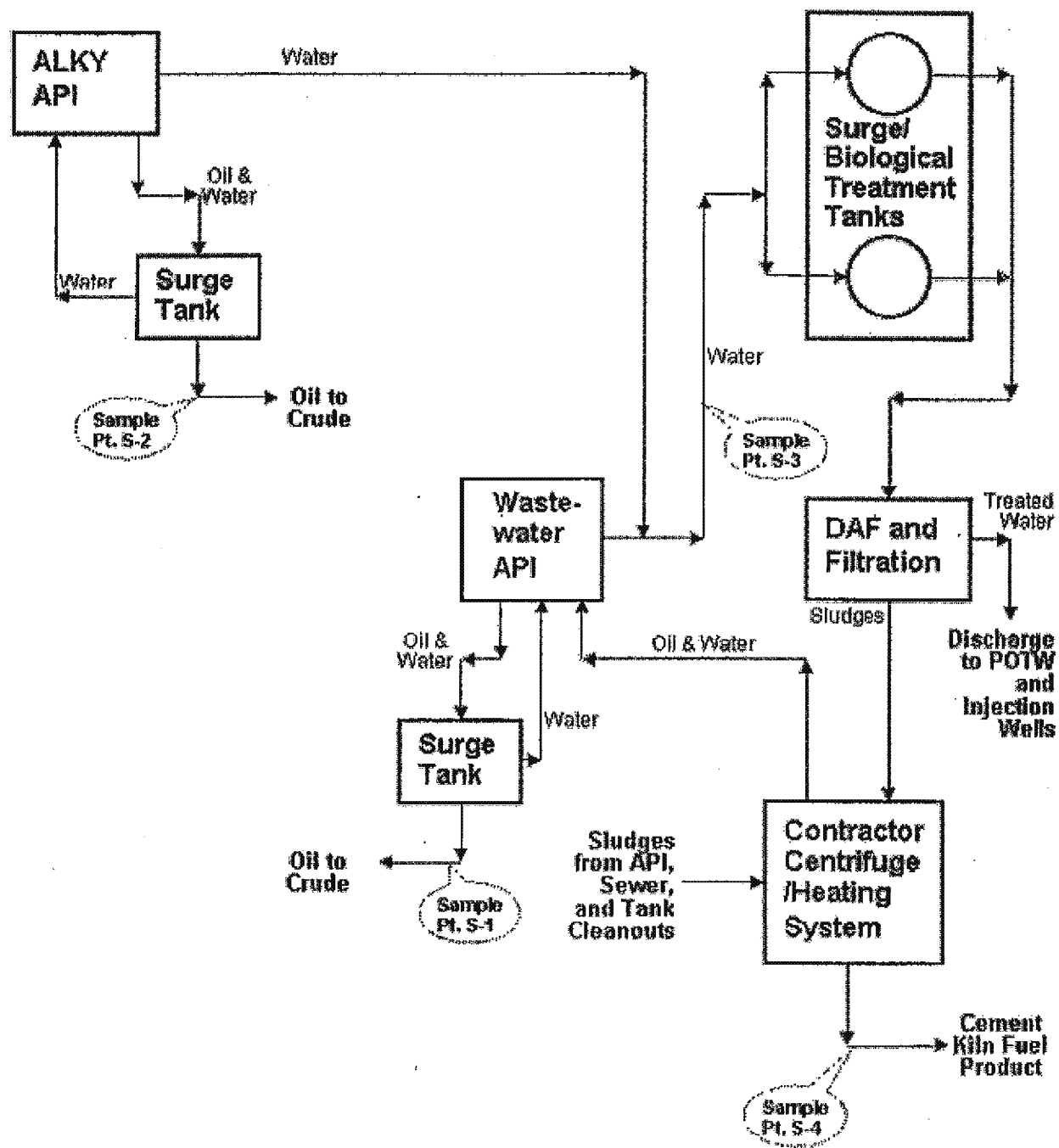
II. EOL SAMPLING POINTS

The Artesia facility is a nominal 75,000 crude barrel per calendar day petroleum refinery that utilizes the distillate capacities of its 45,000 crude barrel per calendar day crude unit and that of a 30,000 crude barrel per calendar day topping plant refinery owned by Navajo in Lovington, New Mexico to produce motor fuels and a full range of distillate products for transfer via truck loading racks and pipeline. The majority of the crude feedstock is sour and the facility has an extensive sour water treatment system to reduce the sulfur and ammonia in wastewater streams for subsequent reuse in the process or final treatment in its wastewater treatment facility. The Artesia facility does not have the traditional slop oil management facilities normally found in a petroleum refinery due to the design of the crude unit and major distillate receiver and accumulator process vessels

that route the organic streams recovered back into crude unit process vessels without subsequent storage or introduction to the atmosphere. Additionally, oil recovered in its sour water system is routed back to crude unit process vessels without subsequent storage or introduction to the atmosphere.

The EOL management of benzene waste streams is limited to: (1) the main wastewater API, hereinafter referred to as the WW API, (2) the Alky API that serves both the Alkylation Unit and the Reformer Unit, (3) waste caustic and skimmed hydrocarbon at Tank 40 and Tank 41, and (4) tank cleaning wastes, sewer cleaning wastes and sludges generated in the two API systems, all of which are processed in a contractor owned and operated centrifuge/heating system. For the purposes of the EOL, the skimmed oil from the APIs will be routed to surge tanks that are fitted with a calibrated volumetric sight glass, where the accumulated recovered oil will be held for the duration of the EOL sampling timeframe. Additionally, the centrifuge/heating system routes the recovered oil and water to the WW API. Water separating from the oil in the surge tanks will be decanted back to the APIs and a final measurement of recovered oil will be made at the end of the EOL sampling period. A schematic of the EOL sampling plan for the API system and the contractor centrifuge/heating system is presented as Figure 1 on the following page.

FIGURE 1
DIAGRAM INDICATING EOL SAMPLING
OF API AND CONTRACTOR CENTRIFUGE/HEATING SYSTEMS



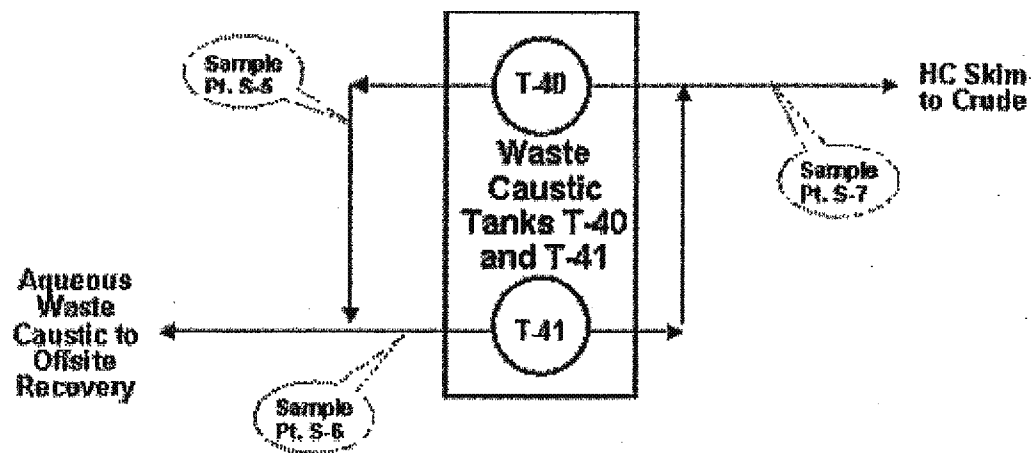
Waste not generated or counted against the TAB quantity, per the BWON regulation, is remediation wastes from groundwater recovery wells that are returned to the oily water sewer in the facility. These waste streams will not be introduced into the Artesia wastewater system during EOL sampling, and will not be counted in the EOL calculations.

The EOL sampling points for the required sampling activities will be:

1. Surge Tank Oil – Sample Numbers S-1 and S-2
Prior to the EOL sampling date for the quarter, surge tanks will be placed near each of the APIs to collect all recovered oil from the APIs along with some water which is skimmed off of the APIs with the oil. The surge tanks will be decanted and the water will be pumped back to the APIs. Sample points S-1 and S-2 sample the oil after the point where the water is returned to the APIs.
2. WW API/Alky API Water – Sample Number S-3
All wastewater from the facility is discharged to the aggressive biological treatment system at Tanks 801/836. The discharge water from the WW API (includes water from the centrifuge system) and the Alky API is combined prior to Tanks 801/836. Sample S-3 is the combined flow of the WW API and the Alky API, and will be collected at a sample point prior to entering Tanks 801/836.
3. Contractor's Cement Kiln Fuel Product – Sample Number S-4
The contractor owned and operated centrifuge/heating system is operated to recover the oil and water content of API separator sludges, sewer cleanings and tank turnaround cleanings within the facility. The recovered oil and water from the centrifuge system is returned to the WW API and will be accounted for in the EOL there. The solids from the centrifuge are reconstituted with slurry oil for subsequent energy recovery in a cement kiln. The cement kiln fuel product will be sampled for benzene.
4. Waste Caustic – Sample Number S-5 through S-7
Waste caustic from various process units is transferred to one of two tanks, Tank 40 or 41. A waste caustic sample will be taken at each tank to determine the benzene concentration in the aqueous phase of the tank. Also, a sample will be taken of the hydrocarbon that is skimmed off and recycled to crude. A schematic of the waste caustic tank operation is presented in Figure 2 on the following page.

FIGURE 2

Waste Caustic Tank Operation



III. EOL SAMPLING SCHEDULE

The EOL sampling will be performed during a one week period on a quarterly basis to arrive at the EOL calculation. During the seven (7) day time period of sampling, the remediation wells will be turned off 3-4 days prior to the sampling events in order to preclude remediation waste from being counted. The sampling will follow 40 CFR 61.355 procedures to the extent possible. A notation will be made if the sample cannot be taken under the 61.355 procedures, as most of the samples will be from open systems that do not allow the sample to be taken with the cooling coil and vacuum pump. With the exception of the waste caustic samples, it is believed that very little, if any, benzene will be lost to vaporization because the samples have already been exposed to the atmosphere in the API's. In the case of samples taken without the cooling coil, the sample must be placed on ice immediately. The sample will be analyzed for benzene per Methods 8240 or 8260.

1. Surge Tanks – Sample Numbers S-1 and S-2
 - a. Recovered oil – three composite benzene samples at the end of the EOL sampling period.
 - b. Recovered oil – one specific gravity sample for each of the composite oil samples.
2. WW API/Alky API – Sample Number S-3
 - a. Discharge water -- three (3) benzene samples in the EOL sampling period with at least 24 hours between samples.
3. Contractor's Cement Kiln Fuel Product – Sample Number S-4
 - a. Solids - three (3) benzene samples in the EOL sampling period with at least 24 hours between samples.
4. Waste Caustic – Sample Numbers S-5 through S-7
 - a. Waste Caustic Tank 40 – three benzene samples of the aqueous phase during the EOL sampling period.
 - b. Waste Caustic Tank 41 -- three benzene samples of the aqueous phase during the EOL sampling period.
 - c. Hydrocarbon Skimmed from Waste Caustic – three benzene samples will be taken during the EOL sampling period.

IV. EOL FLOW VOLUMES

The EOL volumes will be calculated as follows:

1. Surge Tanks – Sample Numbers S-1 and S-2

The recovered oil volume will be read directly from the sight glass on the surge tank which is calibrated for the tank. Prior to the beginning of the EOL sampling period, the recovered oil sumps at each of the API's and the centrifuge system will be pumped out to the lowest possible level, and the surge tank will be empty. During the one week sampling period, the recovered oil will be pumped on an as needed basis to the surge tank to avoid overflow from the recovered oil sumps back into the API's. It is expected that the WW API will be pumped daily with the South API and the Alky API pumped every other day. Pumping from the recovered oil sumps to the surge tank will be noted each time the operation is performed.

2. WW API/Alky API – Sample Number S-3

The flow will be measured from the totalizer flowmeter at the deepwell (after Tanks 801/836) for the facility. There is also a small slip-stream of water that is diverted to the Artesia POTW. This stream is also measured on a flowmeter and will be added to the total going to the deepwells. There are no other flowmeters in the system and it is thought that pump curve calculations will not be accurate enough for the purposes of the EOL Determination. The combined flow reading at the beginning and end of each 24 hour period during the EOL sampling period will be noted. The total flow between the readings will be computed to arrive at the volume of aqueous wastewater discharged daily from the facility during the sampling period. In order to compensate for potentially lower volumes, the two lowest 24 hour volumes will be dropped from the calculation to arrive at an average daily flow based on the 5 highest daily flows. It is anticipated that daily flow through the system averages approximately 400,000 gallons per day.

3. Contractor Cement Kiln Fuel Product – Sample Number S-4

Product weight will be determined for the entire quarter based on shipping manifests for the entire quarter.

4. Aqueous Waste Caustic – Sample Numbers S-5 and S-6

The weight of caustic generated from Tanks 40 and 41 will be determined for the entire quarter based on shipping manifests for the entire quarter.

5. Waste Caustic Tank Hydrocarbon – Sample Number S-7

The volume of hydrocarbon skimmed from each tank cannot be directly measured as the TAB quantity is based upon operator process knowledge. Operator process knowledge estimates that approximately 100 gallons of hydrocarbon are skimmed off each tank every month. A specific gravity will be determined from each of the three samples.

V. EOL CALCULATION

The EOL will be calculated as the sum of all average benzene sample results multiplied by the volume of wastes generated at each sampling location. The following calculations will form the basis of the EOL Determination.

1. Surge Tanks

The recovered oil from the API systems will be calculated as follows:

$$\begin{aligned} \text{EOL (Mg/quarter)} &= 13 \text{ (weeks/quarter)} \times \text{Oil Volume (gal)} \times 8.34 \text{ (lbs water/gal)} \\ &\times \text{Specific Gravity (dimensionless)} \times \text{Average Benzene Concentration (ppmw)} \\ &\times 454 \text{ (g/lb)} \div 10^6 \text{ (g/Mg)} \end{aligned}$$

2. WW API/Alky API

The discharge water from the API systems will be calculated as follows:

$$\begin{aligned} \text{EOL (Mg/quarter)} &= 91 \text{ (days/quarter)} \times \text{Average Flow (gal/day)} \\ &\times 8.34 \text{ (lbs water/gal)} \times \text{Average Benzene Concentration (ppmw)} \\ &\times 454 \text{ (g/lb)} \div 10^6 \text{ (g/Mg)} \end{aligned}$$

3. Contractor Cement Kiln Fuel Product

The centrifuge solids will be calculated as follows:

$$\begin{aligned} \text{EOL (Mg/quarter)} &= \text{Amount of cement kiln fuel shipped in the quarter (lbs)} \\ &\times \text{Average Benzene Concentration (ppmw)} \div 10^6 \end{aligned}$$

4. Aqueous Waste Caustic

The waste caustic for each tank will be calculated as follows:

$$\begin{aligned} \text{EOL (Mg/quarter)} &= \text{Amount of aqueous waste caustic shipped in the quarter (lbs)} \\ &\times \text{Average Benzene Concentration (ppmw)} \div 10^6 \end{aligned}$$

5. Waste Caustic Tank Hydrocarbon

The waste caustic tank hydrocarbon is known from process knowledge. The following calculation for each tank will be as follows:

$$\begin{aligned} \text{EOL (Mg/quarter)} &= 3 \text{ (months/quarter)} \times 100 \text{ (gal)} \times 8.34 \text{ (lbs water/gal)} \\ &\times \text{Sp. Grav. (dimensionless)} \times \text{Average Benzene Concentration (ppmw)} \div 10^6 \end{aligned}$$

Please print (or type) on Form designed for use on 11x17 (12-pitch) typewriter.

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NMAD032618817		2. Page 1 of 1		3. Emergency Response Phone 1-800-421-9200		4. Manifest Tracking Number 017838928 JJK	
5. Generator's Name and Mailing Address NAVAJO REFINING CO., L.L.C. P.O. BOX 199 ARTESIA NM 88210 Generator's Phone: (575) 703-0324				Generator's Site Address (if different than mailing address) NAVAJO REFINING CO., L.L.C. 801 EAST MAIN ARTESIA NM 88210					
6. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC				U.S. EPA ID Number NMR000023952					
7. Transporter 2 Company Name				U.S. EPA ID Number					
8. Designated Facility Name and Site Address U.S. ECOLOGY TEXAS, INC. 5277 COUNTY ROAD 80 ROESTOWN TX 76380 Facility's Phone: (800) 242-3209				U.S. EPA ID Number TXD069452340					
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
				No.	Type				
	X 1. NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III			1	1B	116,580	lbs	OUT5489H F037	
14. Special Handling Instructions and Additional Information 1) 090103475-0 F037 SEWER SLUDGE									
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Officer's Printed/Typed Name CRINDE				Signature [Signature]				Month Day Year 3/18/19	
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:									
17. Transporter Acknowledgment of Receipt of Materials									
Transporter 1 Printed/Typed Name Joe Clark				Signature [Signature]				Month Day Year 3/18/19	
Transporter 2 Printed/Typed Name				Signature				Month Day Year	
18. Discrepancy									
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection									
18b. Alternate Facility (or Generator) Manifest Reference Number: 3126119 25 U.S. EPA ID Number									
18c. Signature of Alternate Facility (or Generator) Month Day Year									
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
20. Designated Facility Owner or Operator. Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a									
Printed/Typed Name RONICA GUARDADO				Signature [Signature]				Month Day Year 3/19/19	

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved, OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NM0048818817	2. Page 1 of 1	3. Emergency Response Phone 800-242-3309	4. Manifest Tracking Number 017838926 JJK
5. Generator's Name and Site Address P.O. BOX 180 ARTESIA NM 88210 Generator's Phone: (505) 763-0524		6. Generator's Site Address (if different than mailing address) HAWAII REFINING CO., LLC 931 EAST MAIN ARTESIA NM 88210			
6. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC			U.S. EPA ID Number NMR000023052		
7. Transporter 2 Company Name			U.S. EPA ID Number		
8. Designated Facility Name and Site Address U.S. ECOLOGY TSPAS, INC. 5277 COUNTY ROAD 88 ROBSTOWN TX 78580 Facility's Phone: (800) 242-3309			U.S. EPA ID Number TXD080452340		
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.
X	HA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III VA 3069	1		14,320	155
13. Waste Codes OUTSASH F037					
14. Special Handling Instructions and Additional Information 1) 090103475-0 7037 SEWER SLUDGE					
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.					
Generator's/Officer's Printed/Typed Name L. R. Dade		Signature [Signature]		Month Day Year 13 12 19	
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:					
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name: Signature: Month Day Year: 13 12 19 Transporter 2 Printed/Typed Name: Signature: Month Day Year:					
18. Discrepancy 18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection 18b. Alternate Facility (or Generator) Manifest Reference Number: 3126119 (15) U.S. EPA ID Number: Facility's Phone: 18c. Signature of Alternate Facility (or Generator) Month Day Year:					
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems): 1. 11039 2. 3. 4.					
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a Printed/Typed Name: Signature: Month Day Year: 13 12 19 KONICA GUAYARDO					

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NMDC048918917	2. Page 1 of 1	3. Emergency Response Phone (800) 424-9300	4. Manifest Tracking Number 018362253JJK
5. Generator's Name and Mailing Address NAVAJO REFINING CO., L.L.C. P.O. BOX 159 ARTESIA Generator's Phone: (675) 703-0334			Generator's Site Address (if different than mailing address) NAVAJO REFINING CO., L.L.C. 501 EAST MAIN ARTESIA		
6. Transporter 1 Company Name B BROTHERS WASTE SERVICES INC			U.S. EPA ID Number NMR000023902		
7. Transporter 2 Company Name			U.S. EPA ID Number		
8. Designated Facility Name and Site Address U.S. ECOLOGY TEXAS, INC 5277 COUNTY ROAD 83 ROBSTOWN Facility's Phone: (817) 242-7000			U.S. EPA ID Number TXD0089462340		
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity
	X	HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III	1 CM 17390		P
	2.				
	3.				
	4.				
12. Unit Wt./Vol.					
13. Waste Codes OUTS400H 837					
14. Special Handling Instructions and Additional Information 1) 20103475-0 FOSTER POWER SLUDGE Box #131 Empty Box WT 6500#					
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.					
Generator's/Officer's Printed/Typed Name Richard L. Oroasco		Signature Richard L. Oroasco		Month Day Year 03/25/19	
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:					
17. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name Francisco Villa		Signature Francisco Villa		Month Day Year 03/25/19	
Transporter 2 Printed/Typed Name		Signature		Month Day Year	
18. Discrepancy					
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection Received 15300 lbs as appraised per C. Sestric 3/20/19 (RS)					
18b. Alternate Facility (or Generator) U.S. EPA ID Number					
Facility's Phone:					
18c. Signature of Alternate Facility (or Generator) Month Day Year					
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)					
1. 11039		2.		3.	
4.		5.		6.	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a.					
Printed/Typed Name James L. ...		Signature James L. ...		Month Day Year 03/21/19	

Form 8700-22 (Rev. 3-05). Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

HFNA-000003522

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NMDC08918817	2. Page 1 of 2	3. Emergency Response Phone 800/424-9300	4. Manifest Tracking Number 017838925-JJK
5. Generator's Name and Mailing Address NAVAJO REFINING CO., L.L.C. P.O. BOX 189 ARTESIA Generator's Phone: (760) 703-0324		Generator's Site Address (if different than mailing address) NAVAJO REFINING CO., L.L.C. 501 EAST MAIN ARTESIA			
6. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC		U.S. EPA ID Number NMR000023852			
7. Transporter 2 Company Name		U.S. EPA ID Number			
8. Designated Facility Name and Site Address U.S. ECOLOGY TEXAS, INC. 3277 COUNTY ROAD 62 ROBSTOWN		U.S. EPA ID Number TX 76360 TXD009462340			
Facility's Phone: (504) 242-3209					
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity
	X	HA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III	1 CM		14290 P
					12. Unit Wt./Vol.
					13. Waste Codes OUTS48SH F037
14. Special Handling Instructions and Additional Information 1) 09010347-0 7037 SEWER SLUDGE Baker VB41817-1 Empty Box Wt 10580#					
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.					
Generator's/Offor's Printed/Typed Name Richard L. Orsio		Signature Richard L. Orsio		Month Day Year 3 25 19	
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:					
17. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name Joe Clark		Signature		Month Day Year 3 25 19	
Transporter 2 Printed/Typed Name		Signature		Month Day Year	
18. Discrepancy					
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection					
18b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number					
Facility's Phone:					
18c. Signature of Alternate Facility (or Generator) Month Day Year					
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)					
1. 4039 2. 3. 4.					
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18c					
Printed/Typed Name Aden Barker		Signature		Month Day Year 3 26 19	

EPA Form 8700-22 (Rev. 3-05) (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NMAD048918917	2. Page 1 of 1	3. Emergency Response Phone 800-424-9300	4. Manifest Tracking Number 008302047 JJK	
5. Generator's Name and Mailing Address Holly Frontier Navajo LLC PO Box 159 Artesia NM 88210			Generator's Site Address (if different than mailing address) Holly Frontier Navajo LLC 501 E. Main Artesia NM 88210			
6. Transporter 1 Company Name S Brothers Waste Services Inc			U.S. EPA ID Number NM R000023952			
7. Transporter 2 Company Name			U.S. EPA ID Number			
8. Designated Facility Name and Site Address HSEcology Texas, Inc. 3277 County Road 69 Robstown TX 78380 Facility's Phone: (800) 242-3209			U.S. EPA ID Number TXD069452340			
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt/Vol	13. Waste Codes
X	1. NA 3077, Hazardous Waste, Solid, N.O.S., 9, PG III	1	CM	23860	P	OUTS 59991 F037
	2.					
	3.					
	4.					
14. Special Handling Instructions and Additional Information 1) 090103475-0 F037 Sewer Sludge Box # 11 Empty Box Wt 8920						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name Richard L. Orsio			Signature Richard L. Orsio		Month Day Year 3/27/19	
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:						
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name Francisco Vela Signature Francisco Vela Month Day Year 3/27/19 Transporter 2 Printed/Typed Name Signature Month Day Year						
18. Discrepancy 18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection Box 14: Profile changed to 70103475-1 13: SWC 047348914 per Chris Scott Manifest Reference Number: 3/28/19 (AR)						
18b. Alternate Facility (or Generator) U.S. EPA ID Number						
Facility's Phone:						
18c. Signature of Alternate Facility (or Generator) Month Day Year						
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1.	2.	3.	4.			
1.	20. Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a					
Printed/Typed Name Helen Barker			Signature Helen Barker		Month Day Year 3/28/19	

Please print or type.

Form Approved, OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number: NMD048918817	2. Page 1 of 1	3. Emergency Response Phone 800 424-9300	4. Manifest Tracking Number 020446938 JJK	
5. Generator's Name and Mailing Address NAVAJO REFINING CO., LLC P.O. BOX 189 ARTESIA NM 88210 (505) 703-0324		Generator's Site Address (if different than mailing address) NAVAJO REFINING CO., LLC 501 EAST MAIN ARTESIA NM 88210				
6. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC		U.S. EPA ID Number NMR000023952				
7. Transporter 2 Company Name		U.S. EPA ID Number				
8. Designated Facility Name and Site Address USECOLOGY TEXAS, INC. 3277 COUNTY ROAD 89 ROBSTOWN TX 78380 Facility's Phone: (800) 242-3209		U.S. EPA ID Number TXD088452340				
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
1	HAZARDOUS WASTE, SOLID, N.O.S., S, PG III	1	CM	16540	P	OUTS 183H P037
2						
3						
4						
14. Special Handling Instructions and Additional Information Box # VB14 Empty Box Wt. 8940						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name Richard L. Drasco		Signature Richard L. Drasco		Month Day Year 14 1 19		
16. International Shipments ☐ Import to U.S. ☒ Export from U.S.		Port of entry/exit: Date leaving U.S.:				
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name Joe Clark		Signature Joe Clark		Month Day Year 14 1 19		
Transporter 2 Printed/Typed Name		Signature		Month Day Year		
18. Discrepancy						
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection						
18b. Alternate Facility (or Generator)		Manifest Reference Number: U.S. EPA ID Number				
Facility's Phone:						
18c. Signature of Alternate Facility (or Generator)						
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
H039		2		4		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name Konica Aguayo		Signature Konica Aguayo		Month Day Year 14 1 19		

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NMDO48018817		2. Page 1 of 4		3. Emergency Response Phone 800-921-9300		4. Manifest Tracking Number 020446939 JJK			
5. Generator's Name and Mailing Address NAVAJO REFINING CO. LLC P.O. BOX 159 ARTESIA NM 88210 Generator's Phone: (575) 703-0324				Generator's Site Address (if different than mailing address) NAVAJO REFINING CO. LLC 301 EAST MAIN ARTESIA NM 88210							
6. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC				U.S. EPA ID Number NMR000023952							
7. Transporter 2 Company Name				U.S. EPA ID Number							
8. Designated Facility Name and Site Address US ECOLOGY TEXAS, INC. 3277 COUNTY ROAD 69 ROBSTOWN TX 78380 Facility's Phone: (800) 242-3209				U.S. EPA ID Number TXD060452340							
9a. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III				10. Containers No. Type		11. Total Quantity		12. Unit Wt./Vol.		13. Waste Codes	
				1		CM		31400		P	
										OUTS 489H F037	
14. Special Handling Instructions and Additional Information Box # 82 Empty Box Wt 10580											
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.											
Generator's/Officer's Printed/Typed Name Richard L. Orsco											
Signature Richard L. Orsco											
Month Day Year 14 1 19											
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:											
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name Fian, CISO VKLH											
Signature Fian, CISO VKLH											
Month Day Year 14 1 19											
Transporter 2 Printed/Typed Name Signature Month Day Year											
18. Discrepancy											
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection											
18b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number:											
Facility's Phone:											
18c. Signature of Alternate Facility (or Generator) Month Day Year											
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)											
20. Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest, except as noted in Item 18a. Printed/Typed Name: Hilda Baren Signature: Hilda Baren Month Day Year 14 2 19											

DESIGNATED FACILITY TO GENERATOR

Form Approved OMB No. 2050-0039

1. UNIFORM HAZARDOUS WASTE MANIFEST

2. Page 1 of 2

3. Emergency Response Phone (800) 424-9300

4. Manifest Tracking Number 020446940 JJK

5. Generator Name and Address: WASTE REFINING CO., P.O. BOX 165, ARTESIA, NM 88210

6. Generator's Phone: (505) 703-0324

7. Transporter Name: S BROTHERS WASTE SERVICES INC

8. Designated Facility Name and Site Address: US ECOLOGY TEXAS, INC., 3277 COUNTY ROAD 69, ROBSTOWN, TX 78380

9. Facility's Phone: (800) 242-3209

10. Containers: 1 CM

11. Total Quantity: 21060

12. Unit: P

13. Waste Codes: QUTS, 89H, F637

14. Special Handling Instructions and Additional Information: Box # VB13 Empty Box Wt 8940 #

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials: Transporter 1 Printed/Typed Name: Signature: Date: Month Day Year

18. Discrepancy: 18a. Discrepancy Indication: ☐ Quantity ☐ Type ☐ Partial Rejection ☐ Full Rejection

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems): H039

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a. Printed/Typed Name: Signature: Date: Month Day Year

Please print or type.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NM0045918917	2. Page 1 of 1	3. Emergency Response Phone (800) 424-9300	4. Manifest Tracking Number 020446941 JJK	
5. Generator Name and Mailing Address NAVAJO REFINING CO., LLC P.O. BOX 169 ARTESIA NM 88210 Generator's Phone: (575) 703-0324		Generator's Site Address (if different than mailing address) NAVAJO REFINING CO., LLC 801 EAST MAIN ARTESIA NM 88210				
6. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC				U.S. EPA ID Number NMR000023852		
7. Transporter 2 Company Name				U.S. EPA ID Number		
8. Designated Facility Name and Site Address US ECOLOGY TEXAS, INC. 3277 COUNTY ROAD 69 ROBSTOWN TX 78380 Facility's Phone: (800) 242-3209				U.S. EPA ID Number TXD069452940		
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt/Vol
			No.	Type		
	1.	HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III	1	CM	15610 P	
	2.					
	3.					
13. Waste Codes OUTS489H F037						
14. Special Handling Instructions and Additional Information 7000054750 P037 SEWER SLODGE Box # 83 Box Tare Wt 9500 #						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name Richard L. Orsio		Signature [Signature]		Month Day Year 4/3/19		
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:						
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name Francisco VILCA		Signature [Signature]		Month Day Year 4/3/19		
Transporter 2 Printed/Typed Name		Signature		Month Day Year		
18. Discrepancy						
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection						
Manifest Reference Number:						
18b. Alternate Facility (or Generator) U.S. EPA ID Number						
Facility's Phone:						
18c. Signature of Alternate Facility (or Generator) Month Day Year						
19. Hazardous Waste Report Management Method Codes (i.e., coded for hazardous waste treatment, disposal, and recycling systems)						
1. H039		2.		3.		4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name Alicia Caballero		Signature [Signature]		Month Day Year 4/4/19		

Please print or type.

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NM0048816817	2. Page 1 of 1	3. Emergency Response Phone# (505) 424-9300	4. Manifest Tracking Number 020446943 JJK	
5. Generator Name and Mailing Address NAVAJO REFINING CO., LLC. P.O. BOX 159 ARTESIA (575) 703-0324		Generator's Site Address (if different than mailing address) NAVAJO REFINING CO., LLC. 501 EAST MAIN ARTESIA NM 88210		Generator's Phone (575) 703-0324		
6. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC				U.S. EPA ID Number NMR000023052		
7. Transporter 2 Company Name				U.S. EPA ID Number		
8. Designated Facility Name and Site Address US ECOLOGY TEXAS, INC. 3277 COUNTY ROAD 69 ROBSTOWN (800) 242-3209				U.S. EPA ID Number TX 78300 TXD069452340		
Facility's Phone						
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt/Vol
			No.	Type		
	1.	HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III	1	CM	5320	P
	2.					
	3.					
13. Waste Codes						
					Q153	F037
14. Special Handling Instructions and Additional Information Box # 54 Empty Box Wt 7960						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this manifest are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/packaged, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (i) I am a large quantity generator) or (ii) I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name Richard L. Oroscio				Signature <i>[Signature]</i>		Month Day Year 4 10 19
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:						
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name Francisco Villa				Signature <i>[Signature]</i>		Month Day Year 4 10 19
Transporter 2 Printed/Typed Name				Signature		Month Day Year
18. Discrepancy						
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection						
18b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number:						
Facility's Phone:						
18c. Signature of Alternate Facility (or Generator) Month Day Year						
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1. H039		2.		3.		4.
20. Designated Facility Owner or Operator. Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a						
Printed/Typed Name Ronica Guajardo				Signature <i>[Signature]</i>		Month Day Year 4 11 19

Please print or type.

UNIFORM HAZARDOUS WASTE MANIFEST		2. Page 1 of 2		3. Emergency Response Phone (800) 924-9300		4. Manifest Tracking Number 020446942 JJK	
5. Generator Name WAXCO REFINING CO., LLC.				5. Generator Site Address (if different than mailing address) WAXCO REFINING CO., LLC.			
P.O. BOX 159 ARTESIA		NM 88210		501 EAST MAIN ARTESIA		NM 88210	
6. Generator's Phone (575) 703-0324				U.S. EPA ID Number NMR000023952			
7. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC				U.S. EPA ID Number			
8. Designated Facility Name and Site Address US ECOLOGY TEXAS, INC. 3277 COUNTY ROAD 69 ROBSTOWN				U.S. EPA ID Number TXD089452340			
Facility's Phone (800) 242-3209				TX 78380			
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		10. Containers		11. Total Quantity	12. Unit Wt./Vol.
				No.	Type		
	1	HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III		1	CM	12520	P
	2						
	3						
13. Waste Codes OUT5483H F637							
14. Special Handling Instructions and Additional Information Box # 26 Empty Box Wt 7960 #							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Officer's Printed/Typed Name Richard L. Brosco				Signature <i>Richard L. Brosco</i>		Month Day Year 4 10 19	
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name Joe Clark				Signature <i>Joe Clark</i>		Month Day Year 12 1 10 19	
Transporter 2 Printed/Typed Name				Signature		Month Day Year	
18. Discrepancy							
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection							
Manifest Reference Number:							
18b. Alternate Facility (or Generator) U.S. EPA ID Number							
Facility's Phone:							
18c. Signature of Alternate Facility (or Generator) Month Day Year							
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1. H039		2.		3.		4.	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest (except as noted in item 18c)							
Printed/Typed Name Adrian Barrera				Signature <i>Adrian Barrera</i>		Month Day Year 4 11 19	

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NMD046918817	2. Page 1 of 1	3. Emergency Response Phone 800-424-9300	4. Manifest Tracking Number 017838927 JJK	
5. Generator's Name and Mailing Address NAVAJO REFINING CO., L.L.C. P.O. BOX 159 ARTESIA, NM 86210 Generator's Phone: (505) 703-0324			Generator's Site Address (if different than mailing address) NAVAJO REFINING CO., L.L.C. 501 EAST MAIN ARTESIA, NM 86210			
6. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC			U.S. EPA ID Number NMR000023962			
7. Transporter 2 Company Name			U.S. EPA ID Number			
8. Designated Facility Name and Site Address ECOLOGY TEXAS, INC 3277 COUNTY ROAD 63 ROBERTSON, TX 75380 Facility's Phone: (800) 242-3209			U.S. EPA ID Number TXD069452340			
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III BIN #140	1	YB	20.480	lbs	OUTS409H F037
	2.					
	3.					
	4.					
14. Special Handling Instructions and Additional Information Y) 020103475-0 F037 SEWER SLUDGE BIN # 140 Empty Bin wt 9000						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name L. R. DADO			Signature [Signature]		Month Day Year 5/3/19	
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:						
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name [Signature]			Signature [Signature]		Month Day Year 5/3/19	
Transporter 2 Printed/Typed Name			Signature		Month Day Year	
18. Discrepancy						
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection Received 17560 pounds approved per Chris Sestak 5/17/19 change profile # 090103475-1 per Chris Sestak 5/17/19 Manifest Reference Number 1/Box 10: Type "CAI"						
18b. Alternate Facility (or Generator) U.S. EPA ID Number						
Facility's Phone:						
18c. Signature of Alternate Facility (or Generator)						Month Day Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1. HD39		2.		3.		4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name Ronica Guajardo			Signature [Signature]		Month Day Year 5/7/19	

Please print or type.

UNIFORM HAZARDOUS WASTE MANIFEST		2. Page 1 of 2		3. Emergency Response Phone (800) 424-9300		4. Manifest Tracking Number 020446944 JJK	
5. Generator 1 Company Name MAXX REFINING CO., LLC P.O. BOX 159 ARTESIA (575) 703-0324 Generator's Phone: (575) 703-0324				501 EAST MAIN ARTESIA NM 88210			
6. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC				U.S. EPA ID Number NMR000023952			
7. Transporter 2 Company Name				U.S. EPA ID Number			
8. Designated Facility Name and Site Address USECOLOGY TEXAS, INC. 3277 COUNTY ROAD 69 ROBSTOWN Facility's Phone: (800) 242-3203				U.S. EPA ID Number TXD089452340 TX 78060			
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		10. Containers No. Type		11. Total Quantity	12. Unit WL/Vol.
	1	HAZ77, HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III		1 CM 25780 P			
	2						
	3						
	4						
13. Waste Codes OUTS439H P837							
14. Special Handling Instructions and Additional Information Bin # V3023 Tank wt 9500# Unit 80 WWT							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded; and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Officer's Printed/Typed Name Richard L. Oroso				Signature [Signature]		Month Day Year 5/8/19	
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name Juan Villa				Signature [Signature]		Month Day Year 5/8/19	
Transporter 2 Printed/Typed Name				Signature		Month Day Year	
18. Discrepancy							
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection Manifest Reference Number: _____							
18b. Alternate Facility (or Generator) U.S. EPA ID Number							
Facility's Phone: _____							
18c. Signature of Alternate Facility (or Generator) Month Day Year							
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems): 1. H039 2. 3. 4.							
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a Printed/Typed Name Alicia Caballero Signature [Signature] Month Day Year 5/9/19							

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NMD048918517		2. Page, of 1		3. Emergency Response Phone 800-424-9360		4. Manifest Tracking Number 020446945 JJK			
5. Generator Name and Site Address NAVAJO REFINING CO., LLC P.O. BOX 189 ARTESIA NM 86210 Generator's Phone: (505) 703-0324				Generator's Site Address (different than mailing address) NAVAJO REFINING CO., LLC 501 EAST MAIN ARTESIA NM 86210							
6. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC				U.S. EPA ID Number NM8000028952							
7. Transporter 2 Company Name				U.S. EPA ID Number							
8. Designated Facility Name and Site Address US ECOLOGY TEXAS, INC. 3277 COUNTY ROAD 68 ROBERTSON TX 78060 Facility's Phone: (800) 242-3206				U.S. EPA ID Number TXD089482340							
9a. HM		9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		10. Containers		11. Total Quantity		12. Unit WL/Vol.		13. Waste Codes	
1		HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III		1 CM		13260		P		OUTS 89H F037	
2											
3											
4											
14. Special Handling Instructions and Additional Information Bin # 97 Empty Bin Wt 6500 # Unit 02											
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.											
Generator's/Officer's Printed/Typed Name Richard L. Orosco				Signature [Signature]				Month Day Year 15 12 19			
16. International Shipment: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:											
17. Transporter Acknowledgment of Receipt of Materials											
Transporter 1 Printed/Typed Name Joe Clark				Signature [Signature]				Month Day Year 5 10 19			
Transporter 2 Printed/Typed Name				Signature				Month Day Year			
18. Discrepancy											
18a. Discrepancy Indication: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection											
Received 11840 pounds approved per Chris Sackrie 5-18-19 ac											
18b. Alternate Facility (or Generator) U.S. EPA ID Number											
Facility's Phone:											
18c. Signature of Alternate Facility (or Generator)											
Month Day Year											
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)											
1. 11039 2. 3. 4.											
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a											
Printed/Typed Name Helen Bamen				Signature [Signature]				Month Day Year 15 14 19			

Please print or type

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		2. Page 1 of 3		3. Emergency Response Phone (800) 424-9300		4. Manifest Tracking Number 020446946 JJK	
5. Generator Name and Address NAVAJO REFINING CO., LLC P.O. BOX 159 ARTESIA (575) 703-0324		6. Generator's Phone		7. Transporter 1 Company Name S BROTHERS WASTE SERVICES INC		U.S. EPA ID Number NMR000023052	
8. Designated Facility Name and Site Address US ECOLOGY TEXAS, INC. 3277 COUNTY ROAD 69 ROBSTOWN (900) 242-3209		9. Facility's Phone		10. Containers No. Type 1 CM 11620 P		U.S. EPA ID Number TX0000052340	
11. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III		12. Total Quantity		13. Waste Codes D015489H F037			
14. Special Handling Instructions and Additional Information Bin # 50 Empty Bin Wt - 7900 # Unit 80		15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.		Signature Richard L. Orasco		Month Day Year 5/15/19	
16. International Shipments ☐ Import to U.S. ☐ Export from U.S.		17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name Joe Clark		Signature [Signature]		Month Day Year 5/15/19	
18. Discrepancy 18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection		18b. Alternate Facility (or Generator) Facility's Phone:		Signature [Signature]		Month Day Year 5/15/19	
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) 1. H039 2. 3. 4.		20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a Printed/Typed Name: James F. [Signature]		Signature [Signature]		Month Day Year 5/15/19	

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	
	)	
and	)	
	)	
STATE OF NEW MEXICO,	)	Civil No.
STATE OF MONTANA	)	
	)	
Plaintiff-Intervenors,	)	
	)	
v.	)	
	)	
NAVAJO REFINING COMPANY, L.P. ,	)	
MONTANA REFINING COMPANY	)	
	)	
Defendants.	)	
_____	)	

CONSENT DECREE

after Navajo and/or Montana Refining, as applicable, receives the results of the Third-Party TAB Study and Compliance Review, Navajo and/or Montana Refining, as applicable, shall submit the results to the Applicable Federal and State Agencies. EPA, the Applicable State Agency, Navajo and/or Montana Refining, as applicable, subsequently shall discuss informally the results of the Third-Party TAB Study and Compliance Review. By no later than one-hundred twenty (120) days after Navajo and/or Montana Refining, as applicable, receives the results of the Third-Party TAB Study and Compliance Review, or such other time as Navajo and/or Montana Refining, as applicable, and EPA may agree, Navajo and/or Montana Refining, as applicable, shall submit to EPA for approval a plan that addresses any deficiencies identified in the Third-Party TAB Study and Compliance Review and any deficiencies that EPA brought to the attention of Navajo and/or Montana Refining, as applicable, as a result of the Third-Party TAB Study and Compliance Review. A copy of this plan shall be submitted to the Applicable State Agency. The review and approval of this Plan shall be done in accordance with Paragraph 22.D.iii of this Decree. Certification of Compliance shall be done in accordance with Paragraph 22.D.iv.

J. End of Line Sampling (TAB is equal to or greater than 1 Mg/yr but less than 10 Mg/yr). The provisions of this Paragraph 22.J shall apply from the date that the final BWN Compliance Review and Verification Report submitted for any Covered Refinery pursuant to Paragraph 22.C shows that a Covered Refinery's TAB is equal to or greater than 1 Mg/yr but less than 10 Mg/yr, through the earlier of: (1) the time that the Covered Refinery reaches a TAB of 10 Mg/yr or more (in which case, the provisions of Paragraph 22.I shall begin to apply); or (2) termination of the Consent Decree.

i. Navajo and/or Montana Refining, as applicable, shall, once per calendar year, conduct sampling, consistent with the requirements of 40 C.F.R. § 61.355(c)(1) and (3), of all waste

streams containing benzene that contributed 0.05 Mg/yr or more to the TAB set forth in the final BWN Compliance Review and Verification Report or in the previous year's TAB, whichever is later;

ii. By no later than ninety (90) days after the date of submitting the final BWN Compliance Review and Verification Report, representatives from EPA and the Applicable State Agency shall meet at the Covered Refinery with representatives from Navajo and/or Montana Refining, as applicable, for the purpose of identifying an appropriate procedure for conducting EOL sampling and measuring EOL benzene quantities at that Covered Refinery. EPA, the Applicable State Agency, and Navajo and/or Montana Refining, as applicable, shall confer about potential EOL sample locations and shall review process and flow information and oil movement transfers. By no later than thirty (30) days after EPA and the Applicable State Agency have met with Navajo and/or Montana, as applicable, at the Covered Refinery, Navajo and/or Montana Refining, as applicable, shall submit a plan to EPA for approval that contains proposed sampling locations and methods for flow calculations to be used in the EOL determination of benzene quantity. A copy of this plan shall be submitted to the Applicable State Agency. Any disputes regarding plan approval under this Paragraph 22.J shall be resolved in accordance with the dispute resolution provisions of this Consent Decree. If, during the life of this Consent Decree, changes in processes, operations, or other factors lead Navajo and/or Montana Refining, as applicable, to conclude that either the approved sampling locations and/or the approved methods for determining flow calculations no longer provide an accurate measure of the Covered Refinery's EOL benzene quantity, Navajo and/or Montana Refining, as applicable, shall submit a revised plan to EPA for approval. A copy of this revised plan also shall be submitted to the Applicable State Agency.



January 30, 2018

U.S. Environmental Protection Agency
Director, Air Enforcement Division
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code 2242-A
Washington, DC 20460

Certified Mail/Return Receipt
7014 3490 0000 6269 7233

**Re: Quarterly Implementation Progress Report
Pursuant to the Consent Decree entered March 5, 2002 by the
U.S. District Court for the District of New Mexico in
United States of America et al. v. Navajo Refining Company, LLC et al.**

Dear Director:

Pursuant to Paragraphs 37 and 23.O of the subject consent decree, this submittal provides the status of implementation of consent decree requirements through the calendar quarter ending December 31, 2017 for HollyFrontier Navajo Refining LLC (formerly Navajo Refining Company, L.L.C.), (Navajo's) Artesia and Lovington, NM refineries. As specified by Paragraph 37, a statement of certification is provided on the following page.

In accordance with the notice provisions of Paragraph 91, copies of this report are being mailed to EPA Region 6 (i.e., the Applicable EPA Region) and to both addresses listed for the State of New Mexico. Navajo is also providing an additional hardcopy to EPA's contractor and electronic-mail copies to the addresses provided in EPA's letter dated August 1, 2002, provided by electronic mail on January 31, 2008, and EPA's electronic e-mail update dated March 19, 2013.

If you have any questions regarding this submittal, please contact me at the address below or by phone at 575-748-3311.

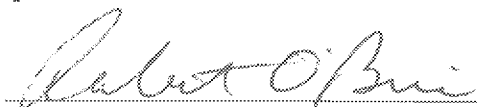
Sincerely,

Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC

By signature below, the undersigned hereby certifies to the following:

Statement of Certification

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.



Robert O'Brien

Vice President & Refinery Manager
HollyFrontier Navajo Refining LLC

Enclosure

cc (w/enc.): Bureau Chief
Air Quality Bureau
New Mexico Environment Department
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87507

Chief
Air, Toxics, and Inspections Coordination Branch
Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

General Counsel
Office of General Counsel
New Mexico Environment Department
P.O. Box 26110
Santa Fe, NM 87502-6110

U.S. Environmental Protection Agency
c/o Matrix Environmental & Geotechnical Services
Matrix New World Engineering, Inc.
26 Columbia Turnpike
Florham Park, NJ 07932

Electronic cc (w/enc.): RGCAACDDeliverables@epa.gov

Electronic cc (w/enc.): HollyFrontier: R. O'Brien, B. Romine,
J. Stump, T. Jones, T. Wheeler, A. Beard

Environmental File: Consent Decree.Subm-Resp.Quarterly Reports.2018.01.30



**New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375**



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Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION					
A. ® Company Name: HollyFrontier Navajo Refining LLC			D. ® Facility Name: HollyFrontier Navajo Refining LLC		
B.1 ® Company Address: PO Box 159			E.1 ® Facility Address: 501 E. Main St.		
B.2 ® City: Artesia	B.3 ® State: NM	B.4 ® Zip: 88211-0159 ¹	E.2 ® City: Artesia	E.3 ® State: NM	E.4 ® Zip: 88210
C.1 ® Company Environmental Contact: Scott M. Denton		C.2 ® Title: Environmental Manager		F.1 ® Facility Contact: Scott M. Denton	
C.3 ® Phone Number: 575-746-5487		C.4 ® Fax Number: 575-746-5451		F.2 ® Title: Environmental Manager	
C.5 ® Email Address: Scott.Denton@hollyfrontier.com			F.5 ® Email Address: Scott.Denton@hollyfrontier.com		
G. Responsible Official: (Title V only): Robert O'Brien		H. Title: Vice President & Refinery Manager		I. Phone Number: 575-748-3311	
				J. Fax Number: 575-746-5451	
K. ® AI Number: 198	L. Title V Permit Number: P051-R2	M. Title V Permit Issue Date: 05/06/2015	N. NSR Permit Number: PSD-NM-0195-M37	O. NSR Permit Issue Date: 08/12/2016	
P. Reporting Period: From: 10/01/2017 To: 12/31/2017					

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A. ☐	Title V Annual Compliance Certification	Permit Condition(s):	Description:	
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ or NOI No. ☐	Condition(s):	Description:
G. ☒	Requirement of an Enforcement Action	NOV No. ☐ or SFO No. ☐ or CD No. ☒ or Other ☐	Section(s): Paragraphs 37 and 23.O	Description: EPA Consent Decree Quarterly Report for HollyFrontier Navajo Refining (Artesia and Lovington)

SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Robert O'Brien</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: 	® Title: Vice President & Refinery Manager	® Date: 01/30/2018	® Responsible Official for Title V? ☒ Yes ☐ No

Reviewed By: _____

Date Reviewed: _____

HFNA-000001713



**New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375**



Version 05.02.13

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Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION									
A. ® Company Name: HollyFrontier Navajo Refining LLC					D. ® Facility Name: HollyFrontier Navajo Refining LLC				
B.1 ® Company Address: PO Box 159					E.1 ® Facility Address: 7406 South Main				
B.2 ® City: Artesia		B.3 ® State: NM	B.4 ® Zip: 88211-0159 ^L		E.2 ® City: Lovington		E.3 ® State: NM	E.4 ® Zip: 88260	
C.1 ® Company Environmental Contact: Scott M. Denton			C.2 ® Title: Environmental Manager		F.1 ® Facility Contact: Scott M. Denton			F.2 ® Title: Environmental Manager	
C.3 ® Phone Number: 575-746-5487			C.4 ® Fax Number: 575-746-5451		F.3 ® Phone Number: 575-746-5487			F.4 ® Fax Number: 575-746-5451	
C.5 ® Email Address: Scott.Denton@hollyfrontier.com					F.5 ® Email Address: Scott.Denton@hollyfrontier.com				
G. Responsible Official: (Title V only): Robert O'Brien			H. Title: Vice President & Refinery Manager		I. Phone Number: 575-748-3311			J. Fax Number: 575-746-5451	
K. ® AJ Number: 622		L. Title V Permit Number: P020-R2		M. Title V Permit Issue Date: 07/13/2015		N. NSR Permit Number: 0273-M9		O. NSR Permit Issue Date: 05/06/2014	
P. Reporting Period: From: 10/01/2017 To: 12/31/2017									

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A. ☐	Title V Annual Compliance Certification	Permit Condition(s):	Description:	
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ : or NOI No. ☐ :	Condition(s):	Description:
G. ☒	Requirement of an Enforcement Action	NOV No. ☐ : or SFO No. ☐ : or CD No. ☒ : or Other ☐ : CIV-01 1422LH	Section(s): Paragraphs 37 and 23.O	Description: EPA Consent Decree Quarterly Report for HollyFrontier Navajo Refining (Artesia and Lovington)

SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Robert O'Brien</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: <i>Robert O'Brien</i>		® Title: Vice President & Refinery Manager	® Date: 01/30/2018
		® Responsible Official for Title V? ☒ Yes ☐ No	

Reviewed By: _____

Date Reviewed: _____

HFNA-000001714

CALENDAR QUARTERLY REPORT

**SUBMITTED PURSUANT TO SECTION IX
OF THE CONSENT DECREE ENTERED IN
*UNITED STATES OF AMERICA ET AL.
V. NAVAJO REFINING COMPANY, L.P.,
AND MONTANA REFINING COMPANY*
(ENTERED MARCH 5, 2002)**

Cumulative from Lodging (December 20, 2001)
Through December 31, 2017

**HollyFrontier Navajo Refining LLC
(formerly Navajo Refining Company, L.L.C.)
Artesia and Lovington, NM Refineries
P.O. Box 159
Artesia, NM 88211-0159**

Calendar Quarterly Report –4th Quarter 2017
HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

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ATTACHMENTS

ATTACHMENT 1 – APPENDIX G SUMMARY REPORT
ATTACHMENT 2 – APPENDIX H SUMMARY REPORT
ATTACHMENT 3 – QUARTERLY EOL SUMMARY
ATTACHMENT 4 –ANALYTICAL REPORTS EOL SAMPLING

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

CALENDAR QUARTERLY REPORT

Cumulative from Lodging (DECEMBER 20, 2001) Through December, 2017

HollyFrontier Navajo Refining LLC (Navajo)
Artesia and Lovington, NM Refineries

1.0 INTRODUCTION

In accordance with the requirements of Section IX of the Consent Decree entered in *UNITED STATES OF AMERICA ET AL., D.V.M. NAVAJO REFINING COMPANY, L.P., AND MONTANA REFINING COMPANY* (entered March 5, 2002), Navajo submits the following “calendar quarterly report” for the Artesia and Lovington, NM refineries. Section IX requires that the quarterly report be submitted within 30 days following the calendar quarter. Today’s report covers actions through the fourth quarter 2017. For completeness, this report addresses relevant actions or activities not just within the current quarter but anytime after the December 20, 2001 Date of Lodging. The contents of this report include:

1. A progress report on the implementation of the requirements of Section V (Section 2.0)
2. A description of any problems anticipated with respect to meeting the requirements of Section V (Section 3.0)
3. A summary of the emissions data as required by Section V (Section 4.0);
4. A description of environmentally beneficial projects and SEP implementation activity during this reporting period (Section 5.0); and
5. Such other matters as Navajo believes should be brought to the attention of EPA (Section 6.0).

Summaries showing the progress on Consent Decree Appendices G and H are provided as Attachments 1 and 2, respectively.

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

2.0 PROGRESS REPORT ON IMPLEMENTATION OF SECTION V OF THE CONSENT DECREE

A. Section V, Paragraphs 11 and 14: NO_x and CO Emission Reductions from FCCUs

Paragraph 12: SO₂ Emission Reductions from FCCUs

Paragraph 13: PM Emission Reductions from FCCUs

Artesia FCCU (No FCCU at Lovington):

Requirement	CD Paragraph	Status/Comment
Begin baseline period, perform notices of Low- NO _x promoter and optimization study. Baseline period data collection from 1/1/04 – 6/30/04. Optimization period to commence no later than June 30, 2004.	11.B	Requirement completed. The optimization period was completed and the optimized addition rate to be used during the demonstration period was submitted to EPA with supporting documentation on 2/24/05.
Commencement of NO _x Additive Demonstration Period and reporting beginning 3/31/05.	11.D	As agreed between Navajo and EPA, the Demonstration Period ended 05/31/2006. Navajo submitted proposed concentration-based NO _x limits on 07/27/2006.

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
Install/certify CEMS to monitor FCCU NOx and O ₂ by 12/31/03.	11.F	CEMS installed and certification RATA performed 11/13/03. Report showing initial certification submitted to NMED on 1/7/04. Pursuant to 40 CFR 60 App F, annual RATA performed 02/14 and 02/15/06. Report showing certification submitted to NMED on 03/15/06. Pursuant to 40 CFR 60 App F, annual RATA performed 01/24/07. Report showing certification submitted to NMED on 02/22/07. Pursuant to 40 CFR 60 App F, annual RATA performed 01/22/08. Report showing certification submitted to NMED on 02/18/08. Pursuant to 40 CFR 60 App F, annual RATA performed 03/03/09. Report showing certification submitted to NMED on 03/30/09. Pursuant to 40 CFR 60 App F, annual RATA performed 03/02/2010 and 03/03/2010. Report showing certification submitted to NMED on 04/05/2010. Pursuant to 40 CFR 60 App F, annual RATA performed 03/01/2011. Report showing certification submitted to NMED on 03/28/2011. Pursuant to 40 CFR 60 App F, annual RATA performed 01/17/2012. Report showing certification submitted to NMED on 02/17/2012. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2013. Report showing certification submitted to NMED on 02/07/2013. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2014. Report showing certification submitted to NMED on 02/04/2014. Annual RATA performed 01/06/2015. Report submitted to NMED on 02/05/2015. Annual RATA performed 01/05/2016. Report submitted to NMED on 02/04/2016. Annual RATA performed 01/03/2017. Report submitted to NMED on 02/04/2017. A review of documentation of QC procedures under 40 CFR 60 App. F was recently undertaken. Documentation of all QC procedures in accordance with 40 CFR 60 App. F was completed as of 12/31/2017.

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
Submit plan to minimize NOx from FCCU during GOHT outages within 180 days of Lodging Date.	11.G	Submitted 6/18/02. EPA's response letter dated 12/9/04 enumerated the requirements for Navajo to have relief from the short term NOx emission limit.
Install and operate wet gas scrubber on FCCU to meet 25 ppmv (annual avg) and 50 ppmv (7-day) SO ₂ by 12/31/03.	12.B	Wet gas scrubber installed and operational during 4 th Quarter 2003. SO ₂ performance testing done 10/16/03; report submitted 1/7/04.
Install and calibrate SO ₂ CEMS in accordance with 40 CFR 60.11, 60.13 and Part 60 App. F	12.D	CEMS installed and certification RATA performed 11/13/03. Report showing initial certification submitted to NMED on 1/7/04. Pursuant to 40 CFR 60 App F, annual RATA performed 02/14 and 02/15/06. Report showing certification submitted to NMED on 03/15/06. Pursuant to 40 CFR 60 App F, annual RATA performed 01/24/07. Report showing certification submitted to NMED on 02/22/07. Pursuant to 40 CFR 60 App F, annual RATA performed 01/22/08. Report showing certification submitted to NMED on 02/18/08. Pursuant to 40 CFR 60 App F, annual RATA performed 03/03/09. Report showing certification submitted to NMED on 03/30/09. Pursuant to 40 CFR 60 App F, annual RATA performed 03/02/2010 and 03/03/2010. Report showing certification submitted to NMED on 04/05/2010. Pursuant to 40 CFR 60 App F, annual RATA performed 03/01/2011. Report showing certification submitted to NMED on 03/28/2011. Pursuant to 40 CFR 60 App F, annual RATA performed 01/17/2012. Report showing certification submitted to NMED on 02/17/2012. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2013. Report showing certification submitted to NMED on 02/07/2013. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2014. Report showing certification submitted to NMED on 02/04/2014. Annual RATA performed 01/06/2015. Report submitted to NMED on 02/05/2015. Annual RATA performed 01/05/2016. Report submitted to NMED on 02/04/2016. Annual RATA performed 01/03/2017. Report submitted to NMED on 02/04/2017 See entry for Paragraph 11.F. regarding 40 CFR 60 App. F QC procedures.

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
WGS shall achieve 1 lb PM per 1000 lb coke burn on 3-hr basis by 12/31/03.	13.B	Wet gas scrubber installed and operational during 4th Quarter 2003. PM testing completed 11/13/03 and report submitted 1/7/04. Results of 0.5-0.6 lb PM per 1,000 lb coke burn compared to <1.0 lb PM per 1,000 lb coke burn standard. Additional testing was performed 3/3/04 following repairs to the scrubber. These test results indicate <0.25 lb PM per 1,000 lb coke burn (i.e., 25% of standard).

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
Meet 500 ppmv CO on 1-hr basis and 100 ppmv on annual avg. by 12/31/03. Install/Certify CEMS for FCCU CO and O2 by 12/31/03.	14.B and 14.C	CO performance testing conducted 10/16/03. CEMS installed and RATA performed 11/13/03. Report showing certification submitted to NMED on 1/7/04. Pursuant to 40 CFR 60 App F, annual RATA performed 02/14 and 02/15/06. Report showing certification submitted to NMED on 03/15/06. Pursuant to 40 CFR 60 App F, annual RATA performed 01/24/07. Report showing certification submitted to NMED on 02/22/07. Pursuant to 40 CFR 60 App F, annual RATA performed 01/22/08. Report showing certification submitted to NMED on 02/18/08. Pursuant to 40 CFR 60 App F, annual RATA performed 03/03/09. Report showing certification submitted to NMED on 03/30/09. Pursuant to 40 CFR 60 App F, annual RATA performed 03/02/2010 and 03/03/2010. Report showing certification submitted to NMED on 04/05/2010. Pursuant to 40 CFR 60 App F, annual RATA performed 03/01/2011. Report showing certification submitted to NMED on 03/28/2011. Pursuant to 40 CFR 60 App F, annual RATA performed 01/17/2012. Report showing certification submitted to NMED on 02/17/2012. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2013. Report showing certification submitted to NMED on 02/07/2013. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2014. Report showing certification submitted to NMED on 02/04/2014. Annual RATA performed 01/06/2015. Report submitted to NMED on 02/05/2015. Annual RATA performed 01/05/2016. Report submitted to NMED on 02/04/2016. Annual RATA performed 01/03/2017. Report submitted to NMED on 02/03/2017. See entry for Paragraph 11.F. regarding 40 CFR 60 App. F QC procedures.

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

B. Section V, Paragraph 15: NSPS Applicability of FCCUs*Artesia FCCU (No FCCU at Lovington):*

Requirements	CD Paragraph	Status/Comment
NSPS becomes applicable to FCCU for SO ₂ , PM, CO and opacity on 12/31/03.	15	Wet gas scrubber installed and operational during 4th Quarter 2003. PM performance testing, initial CEMS certification RATA for SO₂ and CO completed 11/13/03 and report submitted 1/7/04. AMP for opacity submitted 12/31/03; pending written approval. Method 9 readings indicate 0 – 5% opacity. Annual PM testing per AMP was performed 2/8/05 indicating 0.11 lb PM/1000 lb coke. Annual PM testing per AMP was performed 2/15/06 indicating 0.19 lb PM/1000 lb coke. Annual PM testing per AMP was performed 1/24/07 indicating 0.34 lb PM/1000 lb coke. Annual PM testing per AMP was performed 1/22/08 indicating 0.13 lb PM/1000 lb coke. Annual PM testing per AMP was performed 3/3/09 indicating 0.47 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 03/02/2010 and 03/03/2010 indicating 0.54 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 03/01/2011 indicating 0.23 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 01/17/2012 indicating 0.39 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 01/08/2013, which did not show compliance, and again on 3/04/2013 indicating 0.204 lb PM/1000 lb coke burned. Annual PM testing per AMP performed 01/08/2014 indicating 0.71 lb PM/1000 lb coke burned. Report showing certification submitted to NMED on 02/04/2014. Annual PM testing per AMP performed 01/06/2015 indicating 0.11 lb PM/1000 lb coke burned. Report submitted to NMED on 02/05/2015. Annual PM testing per AMP performed 01/05/2016 indicating 0.35 lb PM/1000 lb coke burned. Report submitted to NMED on 02/04/2016. Annual PM testing per AMP performed 01/03/2017 indicating 0.03 lb PM/1000 lb coke burned. Report submitted to NMED on 02/03/2017.

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

C. Section V, Paragraph 16: NO_x Emissions Reductions from Heaters and Boilers

Requirements	CD Paragraph	Status/Comment
Install NO _x control on B-7 by 12/31/02 to meet 0.06 lb/MMBtu and operate CEMS on B-7 for NO _x and O ₂ .	16.B.ii. and 16.C.i.	FGR started up on 12/17/2002. CEMS installed and was successfully certified by a RATA performed 12/18/2002. Test results and CEMS indicate B-7 meets NO _x control requirement. Pursuant to 40 CFR 60 App F, annual RATA performed 09/26/2006, 09/13/2007, 09/09/2008, 09/17/2009, 08/24/2010, 08/16/2011, 08/15/2012, 08/07/2013. RATA performed 07/30/2014. Certification report submitted to NMED on 09/11/2014. RATA performed 07/23/2015. Certification report submitted to NMED on 08/20/2015. RATA performed 07/13/2016. Certification report submitted to NMED on 08/05/2016. RATA performed 06/21/2017. Certification report submitted to NMED on 07/20/2017.
Install NO _x control on B-8 by 12/31/03 to meet 0.06 lb/MMBtu and operate CEMS on B-8 for NO _x and O ₂ .	16.B.ii. and 16.C.i.	B-8 began actual initial startup and shakedown period on 7/23/03. NO _x controls and CEMS operational. CEMS RATA and B-8 performance testing done 10/29/03. Test report submitted 12/8/03. Pursuant to 40 CFR 60 App F, annual RATA performed 09/26/2006, 09/13/2007, 09/09/2008, 09/17/2009, 08/24/2010 08/16/2011, 08/15/2012, 08/06/2013, 07/30/2014. RATA was performed 07/29/2014. Certification report submitted to NMED on 09/11/2014. RATA was performed 07/13/2016. Certification report submitted to NMED on 08/05/2016. RATA performed 06/21/2017. Certification report submitted to NMED on 07/20/2017.
Install next-generation ultra-low NO _x control on H-20 and H-601 at Artesia refinery. Performance test H-20 and H-601. Establish compliance indicators by an initial performance test.	16.B.i., 16.C.iii., and Appendix C	H-601 burners installed. Testing conducted on 3/2/04. Report including proposed compliance indicators and permit limits was submitted 5/14/04. H-20 burners installed prior to 12/31/05 deadline and heater resumed operation 12/29/05. H-20 performance test conducted on 02/16/06. Report submitted to NMED on 03/23/06. Permit limit proposed in air permit application submitted to NMED on 4/27/06. NMED issued permit 6/23/06.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Install next-generation ultra-low NO _x control on H-101 at Lovington refinery. Operate CEMS or PEMS on H-101 by 12/31/05.	16.B.i., 16.C.ii., and Appendix C	Heater H-101 was removed from service November 2003. Navajo installed NGULNBs in the new Crude Oil Charge Heater (H-103) that replaced H-101. H-103 was completed during December 2003 turnaround and began operation after 4th Quarter turnaround. As-installed duty of NGULNBs was < 150 MM Btu/hr, but > 100 MM Btu/hr. H-103 initial testing done 03/04/04. Test report, including proposed parametric monitoring plan and permit limits, was submitted 05/14/04. In 02/2009, Navajo installed eight additional NGULNBs in the Crude Oil Charge Heater (H-103) that replaced H-101. As-installed duty of NGULNBs was > 150 MM Btu/hr, so a NO_x CEMS was installed. An initial performance test and the NO_x CEMS RATA were conducted 05/21/2009. Pursuant to 40 CFR 60 App F, annual RATA performed 05/20/2010, 08/16/2011, 05/24/2012. RATA was performed 05/14/2013. Certification report submitted to NMED on 06/10/2013. RATA was performed 05/13/2014. Certification report submitted to NMED on 06/12/2014. RATA was performed 05/06/2015. Certification report submitted to NMED on 06/04/2015. RATA was performed 05/04/2016. Certification report submitted to NMED on 06/03/2016. RATA was performed 04/25/2017. Certification report submitted to NMED on 05/16/2017. See entry for Paragraph 11.F regarding 40 CFR 60 App. F QC procedures.
Install next-generation ultra-low NO _x control on H-600 and 70-H1/H2/H3 at Artesia refinery. Performance test H-600, and 70-H1/H2/H3. Establish compliance indicators by 12/31/09.	16.B.i., 16.C.iii., and Appendix C	H-600: Air permit 0195-M25-R3 authorizing the burner retrofit was issued by NMED on 05/14/08. The retrofit was completed in 02/2009. The performance test was conducted 03/04/09 and the test report submitted 03/30/09. Administrative permit revision 0195-M26-R1 effective 04/14/2009. 70-H1/H2/H3: NGULNBs were installed in CCR Heaters 70-H1/H2/H3 in May 2006 and heaters resumed operation on 6/2/06. Performance test conducted 7/11/06 and test report submitted 8/15/06. An application for a proposed permit limit was submitted to NMED 9/28/06. NMED issued permit PSD-NM-0195-M25 on 12/14/2007.

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Install next-generation ultra-low NOx control on B-SG-1101A and B-SG-1101B at Lovington refinery by 12/31/09. Conduct performance test B-SG-1101A and B-SG-1101B and establish compliance indicators.	16.B.i., 16.C.iii., and Appendix C	An air permit application proposing the installation of NGULNBs in SG-1101A and SG-1101B was submitted to NMED on 12/21/2007. Permit 0273-M7 authorizing the retrofit with NGULNBs was issued by NMED on 05/06/2008. Navajo subsequently decided to replace the existing boilers with new boilers using NGULNBs. Permit 0273-M7-R1 authorizing the replacement boilers was issued by NMED on 10/14/2009. Boiler SG-110B was permanently shut down on 12/05/2009. Its replacement, BO-1104, began operation on 12/17/2009. Initial performance testing was conducted 01/28/2010 on BO-1104 and the report submitted to NMED on 02/24/2010. Because of initial operating problems with BO-1104, the second boiler, SG-1101A was not permanently shut down until 01/04/2010. Its replacement, BO-1105, began operation on 01/15/2010. Initial performance testing was conducted 01/26/2010 on BO-1105 and the report submitted to NMED on 2/24/2010. The BO-1105 initial performance test was conducted on 1/26/2010, and the report submitted to the AQB on 02/24/2010. The BO-1104 initial performance test was conducted on 01/28/2010, and the report submitted to the AQB on 02/24/2010. The burners installed with BO-1105 and BO-1104, were subsequently found to not meet the NGULNB performance specification in the Consent Decree. The installation of NGULNB in BO-1105 was completed 06/20/2013. The installation of BO-1104 NGULNB was completed 07/29/2013. BO-1105 NOx Performance Test was completed 07/12/2013. BO-1104 NOx Performance Test was completed 09/04/2013.

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Submit proposed NOx permit limits within 120 days of NOx control technology installation.	16.D	Requirement completed. B-7: Proposed B-7 NO_x limit submitted to NMED 01/31/03. B-8: Proposed B-8 NO_x limit submitted to NMED 12/8/03. H-601: Proposed H-601 NO_x limit submitted 5/14/04 in stack test report and permitted in 195-M17 as issued 12/15/04. H-103 (Lovington Refinery): Proposed H-103 NO_x limit submitted 5/14/04 in stack test report; on 2/21/06 NMED issued 0273-M4 to add the NO_x limit. After installing additional NGULNBs in 02/2009, the limits were confirmed in the 05/21/2009 test and included in Permit 0273-M7-R1 issued by NMED on 10/14/2009. H-20: Proposed H-20 NO_x limit submitted to NMED in air permit application on 04/27/06; permit 0195-M24 issued 06/23/06. 70-H1/H2/H3: Proposed 70-H1/H2/H3 NO_x limit submitted to NMED in air permit application on 09/28/06; permit PSD-NM-0195-M25 issued 12/14/2007. H-600: Proposed H-600 NO_x limit authorized by NMED air permit administrative revision effective on 04/14/09. BO-1104 and BO-1105: (replacement boilers for B-SG-110A and B-SG-1101B). Proposed BO-1104 and BO-1105 NO_x limits submitted to NMED in air permit application on 04/13/2010; permit 0273-M8 issued 07/19/2010.
Submit annual progress report on NOx control technology	16.E	First report was submitted 12/19/02. The report for 2003 was submitted 12/29/03 with supplemental information provided 1/8/04. 2004 report submitted 12/31/2004. 2005 report submitted 12/31/2005. 2006 report submitted 12/11/2006. 2007 report submitted 12/20/2007. 2008 report submitted 12/19/2008. 2009 report submitted 12/28/2009. 2010 report submitted 12/15/2010. 2011 report submitted 12/31/2011. 2012 report submitted 12/11/2012. 2013 report submitted 12/18/2013. 2014 report submitted 12/19/2014. 2015 report submitted 12/31/2015. 2016 report submitted 12/30/2016. 2017 report submitted 12/28/2017.

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

D. Section V, Paragraph 17: SO₂ Emissions Reductions from Heaters and Boilers and NSPS Applicability

Requirements	CD Paragraph	Status/Comment
NSPS Subparts A and J become applicable to Heaters and Boilers by Date of Lodging.	17.B	Commenced 12/20/01. See entry for Paragraph 11.F. regarding 40 CFR 60 App. F QC procedures.

E. Section V, Paragraphs 18 and 19: NSPS Applicability for SRP and Flaring Devices

Requirements	CD Paragraph	Status/Comment
SRP shall comply with NSPS J limit and monitor tail gas emissions by Date of Lodging.	18.C.i. and 18.C.ii.	Commenced 12/20/01. See entry for Paragraph 11.F. regarding 40 CFR 60 App. F QC procedures.
NSPS Subparts A and J become applicable to Flares by Date of Lodging.	Appendix E	Commenced 12/20/01. The recent implementation of flare monitoring requirements under NSPS Ja resulted in the identification and repair of several relief valves that were leaking to the flare. In addition, three flare gas streams with higher sulfur levels were identified as routed to the Lovington flare. These three streams were rerouted to the fuel gas system. As of November 11, 2015, all gas streams currently routed to the flares are monitored for compliance with the NSPS Ja requirements. Excess emission information for the flares at Artesia and Lovington for the semiannual period: January-June 2016 was included in Attachment 4 to the 3 rd quarter 2016 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2016 was included in the semiannual NSPS monitoring report submitted on January 30, 2017, and was attached to the 1 st quarter 2017 Consent Decree Progress Report. Excess emission information for events occurring during the semiannual period: January-June 2017 was reported in the semiannual NSPS Ja monitoring report submitted on July 28, 2017, and were attached to the 3 rd quarter Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2017 will be included in the semiannual NSPS monitoring report due on January 30, 2018, and will be attached to the 1 st quarter 2018 Consent Decree Progress Report.

Calendar Quarterly Report –4th Quarter 2017

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Submit AMP plan for Flares FL-400, FL-401, FL-402 and FL-403 within 90 days of Lodging Date.	Appendix E	Submitted 3/19/02.
NSPS Subparts A and J become applicable to Flare FL-1001 at Lovington refinery on 12/31/06.	Appendix E	Off-Gas Scrubber system for sweetening sour LPG before combusting in flare completed by 12/31/06.
Submit AMP plan for Flare FL-1001 at Lovington refinery by 7/30/07.	Appendix E	An approvable AMP was submitted 02/14/07. AMP is pending EPA approval.
Submit enhanced Maintenance and Operation plan for SRP (PMO plan) within 270 days of Date of Lodging.	18.D	Plan submitted on 9/16/02 and updated on 03/24/05. The last revision was completed on 09/2017
Begin optimization study on SRP by 1/1/04.	18.E	Study commenced by 1/1/04 deadline.
Complete optimization study on SRP and report results by 12/31/04.	18.E	Navajo retained a third party to coordinate performance testing for the optimization study and prepare a report which was submitted to EPA on 12/31/04.
10-day prior notice required for scheduled Duke Energy shutdowns affecting Lovington refinery by Date of Lodging.	19.E	Commenced 12/20/01.

F. Section V, Paragraphs 20 and 21: Control of Acid Gas Flaring, Tail Gas Incidents and Hydrocarbon Flaring

Requirements	CD Paragraph	Status/Comment
Perform root cause analyses for acid gas and tail gas incidents beginning on Lodging Date.	20	Commenced 12/20/01.
Perform root cause analyses for hydrocarbon flaring incidents beginning on Lodging Date.	21	Commenced 12/20/01.

G. Section V, Paragraph 22: Benzene Waste NESHA

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Complete Phase One of the review and verification of the TAB by 9/16/02.	22.C.i.	Completed 09/11/02.
Submit BWN Phase One Compliance Review and Verification report for EPA approval by 10/16/02.	22.C.i.	Report of results submitted on 10/09/02.
Submit amended TAB report if BWN Compliance Review shows reporting applied.	22.D.i.	Amended TAB report was included in the 10/09/02 submittal.
Establish annual review program	22.E	Completed as part of Phase One review and is now ongoing.
Train employees who conduct sampling.	22.G and 22.M.ii.a(1)	A training plan was developed on 12/06/02 for the Artesia Refinery (i.e., since its TAB is greater than 1.0 Mg/yr). The first training session was held 01/07/03 at both the Artesia and Lovington refineries. The second training session for the two refineries was held 1/27/04 and 01/28/04. Annual refresher training for the two refineries was performed the weeks of 02/08/05, 03/27/06, 03/05/07, 02/25/08 (Lov), 11/07/08 (Art), 12/18/09, 12/17/10 and 12/20/2011. BWON TAB training was conducted on 11/08/2012 at the Artesia and Lovington refineries. BWON sampling training was conducted on 01/14/2013 and 04/18/2013, 11/12 to 11/14/2013, 05/24/2014, 06/22/2014, 12/12/2014, 3/16/2015, 4/1/2015, 5/15/2015, 2/29/2016, 3/8/2016, 3/17/2016, and 09/25/2017.
Submit schematics of Waste/Slop/Off-Spec Oil Management by 03/20/02.	22.H.i.	Submitted on 03/19/02. Revised schematics reflecting NSPS QQQ were submitted 04/29/04. Schematics are awaiting approval by EPA.
Conduct annual sampling of waste streams which the BWN Compliance Review and Verification Report showed to be 0.05 Mg/yr or greater.	22.J.i. and 22.M.ii.a(2)	The annual sampling was performed in February 2005. The results were in Attachment 4 to the first quarter 2005 report. Annual sampling performed in February 2006. The results were in Attachment 4 of the first quarter 2006 report. Annual sampling was performed in September and December 2007. The results were submitted in attachment 4 of the first quarter 2008 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2008. The results were in attachment 4 of the first quarter 2009 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2009. The results were submitted in attachment 4

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
		of the first quarter 2010 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2010. The results were in attachment 4 of the first quarter 2011 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2011. The results are in Attachment 4 of the first quarter 2012 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2012. The results were submitted in Attachment 4 of the first quarter 2013 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2013. The results were submitted in Attachment 4 of the first quarter 2014 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2014. The results were submitted in Attachment 4 of the 1st quarter 2015 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2015. The results were included in Attachment 4 of the 1st quarter 2016 report as required by ¶22.M.ii.a(2). Annual sampling was performed in October 2016. The results were included in Attachment 4 of the 1st quarter 2017 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2017. The results will be included in Attachment 4 of the 1st quarter 2018 report as required by ¶22.M.ii.a(2).
Meet with NMED and EPA at the refinery and submit an annual end of line (EOL) sampling plan – applicable to Artesia Refinery (i.e., TAB is equal to or greater than 1 Mg/yr but less than 10 Mg/yr).	22.J.ii	Navajo was notified by NMED and EPA via email dated 12/9/02 that the ¶22.J.ii visit by the agencies would not occur. Navajo met the deadline by submitting the EOL sampling plan on 2/6/03. Conditional approval of the plan was received from EPA by letter dated 1/23/04. Navajo responded by submitting a revised EOL sampling plan by letter dated 3/31/04.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Conduct quarterly EOL sampling and submit the results to EPA in quarterly report.	22.J.iii. and 22.M.ii.a(3)	These requirements are not applicable until EPA approves the sampling plan. Although EPA has not approved or commented on the revised sampling plan submitted 03/31/2004, Navajo conducted its first EOL sampling during the week of 3/22/2004. The EOL benzene quantity (BQ) for the fourth quarter of 2004 was 0.8 Mg (projected annual < 10 Mg). The annual TAB, submitted 4/05 was 4.9 Mg for Artesia and 1.5 Mg for Lovington. The 1st, 2nd, 3rd, and 4th quarter 2005 EOL BQs were each <2.5 Mg. The 1st, 2nd, 3rd, and 4th quarter 2006 EOL BQs were each <2.5 Mg. The 1st, 2nd, and 3rd quarter 2007 EOL BQs were each <2.5 Mg. The 4th quarter 2007 EOL BQ result was greater than 2.5 Mg. The 1st quarter 2008 EOL BQ result was less than 2.5 Mg. The 2nd and 3rd quarter 2008 EOL BQ results were both greater than 2.5 Mg. The EOL BQ for the 4th quarter of 2008 was <2.5 Mg and the projected 2008 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2009 was <2.5 Mg and the projected 2009 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2010 was <2.5 Mg and the projected 2010 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2011 was <2.5 Mg and the projected 2011 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2012 were each <2.5 Mg and the projected 2012 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2013 were each <2.5 Mg and the projected 2013 TAB was <10 Mg/yr. The projected 2013 TAB was < 10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2014 were each <2.5 Mg and the projected 2014 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2015 were <2.5 Mg and the projected TAB for 2015 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2016 exceeded 2.5 Mg. As required by paragraph 22.J.iv, Navajo submitted a plan with the fourth quarter Consent

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
		Decree report that identified the specific actions to be taken and the schedule for such actions to ensure that the TAB does not exceed 10 Mg in the calendar year. The EOL BQ for the 4th quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

H. Section V, Paragraph 23: LDAR

Requirements	CD Paragraph	Status/Comment
Develop and maintain written facility-wide LDAR compliance program by 04/19/02.	23.A	Completed before 4/19/02.
LDAR Training within 1 year of Date of Lodging.	23.B	Newly assigned personnel (both 3 rd party and Navajo) are receiving training. On going training programs have been implemented.
Perform initial LDAR 3 rd party/internal audits by 12/20/02 and correct deficiencies. Repeat audits every two years.	23.C and 23.D	3 rd party audits for Artesia and Lovington were conducted on 10/2002 and deficiencies were corrected per Paragraph 23.D. 3 rd party audits for Artesia and Lovington were performed during 12/2004, 01/2007, 01/2009, and 01/2011. The Artesia and Lovington refineries underwent maintenance turnaround from January to March, 2013. The 2013 LDAR 3 rd party audit was conducted from 09/16 to 09/20/2013, after the refinery was back online normal operation data has been collected for 1 complete quarter for comparative monitoring. A copy of the 2013 LDAR 3 rd party audit report and resolutions were submitted in Attachment 5 of the 1 st Quarter 2014 report. 3 rd party audits for Artesia and Lovington were performed during the week of October 5 th to 9 th , 2015. A copy of the 2015 LDAR 3 rd party audit report and resolutions are included in Attachment 5 of the 1 st Quarter 2016 report. The 2017 LDAR 3 rd party audit was conducted from 05/17 to 05/18/2017. A copy of the audit report was attached to the 3 rd Quarter Consent Decree Progress Report. The audit resolutions will be included as Attachment 4 to the 1 st Quarter report.
Valves use 500 ppm leak definition by 2 years after Date of Lodging	23.E.i.	Completed prior to 12/20/03.
NSPS Subpart GGG becomes applicable to FCCU wet gas compressor on 12/31/03.	23.E.iii	Compressor seal system was upgraded during 2003 FCCU turnaround. Operational beginning December 2003.
Pump monitoring using internal leak definition of 2,000 ppm in accordance with phased-in schedule – i.e., 50% by 6/20/03, 85% by	23.E.ii.a., b., and c.	List of pumps comprising >85% was developed and these pumps are using the 2,000 ppm leak definition for all monitoring subsequent to 12/20/03. All pump monitoring using internal leak definition of 2,000 ppm after 4/20/05.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
12/20/03, and 100% by 4/20/05		
NSPS Subpart GGG becomes applicable to Crude vent compressor at Lovington refinery as of Date of Lodging.	23.E.iii	This was completed upon CD lodging. Crude Vent Compressor (C-150A/B) is now included in the LDAR monitoring program.
First attempt at repairs on valves that have VOC reading > 200 ppm within 90 days of Lodging Date.	23.G	Commenced with January 2002 quarterly monitoring.
Quarterly monitoring of valves - no Skip Period by Date of Lodging.	23.H.ii.	Completed by 12/20/01.
LDAR database to include date, time, operator, and instrument within 6 months of Date of Lodging.	23.I.i.	Commenced with May 2002 monitoring.
Submit operational specifications designed to minimize non-electronic data collection and transfer within 6 months of Date of Lodging	23.I.ii., and 23.O.i.b.	Submitted 6/19/02.
Develop/ implement procedure for LDAR data QA/QC within 90 days of Lodging Date.	23.J	Procedure developed on 3/19/02 and included as an appendix in the written LDAR program.
Establish accountable LDAR personnel by Date of Lodging.	23.K	Completed by 12/20/01.
Establish tracking program for adding new pumps and valves to LDAR program within 120 days of Date of Lodging	23.L	This program was established by 4/19/02 and is described in the written LDAR program.
Conduct calibration/drift assessments of monitoring instruments at the end of each shift by the Date of Lodging.	23.M	Commenced on 12/20/01.
More stringent delay of repair requirements including drill and tap for valves reading >10,000 ppm by Date of Lodging.	23.N.ii.	Commenced on 12/20/01.

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Requirements	CD Paragraph	Status/Comment
Submit written facility-wide LDAR compliance program by 5/19/02.	23.O.i.a.	Submitted 05/13/2002.
Submit LDAR report with MACT Periodic reports.	23. O.ii.c.	The monitoring results were incorporated into the periodic reports submitted pursuant to 40 CFR 63.654 on: 3/15/02, 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/06/06 for Lovington), 3/16/07, 09/14/07, 3/17/08, 9/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011, 03/09/2012 and 09/06/2012 (09/06/2012 for Lovington), 03/15/2013, 09/16/2013, 02/25/2014 (Artesia), 08/26/2014 (Lovington), 02/26/2015 (Artesia and Lovington), 08/27/2015 (Artesia and Lovington), 02/18/2016 (Artesia and Lovington), 08/29/2016 (Artesia and Lovington), 02/28/2017 (Artesia and Lovington), and 08/29/2017 (Artesia and Lovington).

I. Section V, Paragraph 24: Incorporate CD Requirements into Enforceable Permits

Requirements	CD Paragraph	Status/Comment
Within 180 days of Date of Lodging, submit an application for Federally enforceable NSR permit to incorporate of limits, standards, or schedules effective on the Date of Lodging.	24.A	Applications to revise the NSR permits for the Artesia and Lovington refineries were submitted 5/28/02. Permit revision issued for Lovington on 10/15/03. Permit revision for Artesia issued 12/15/04.
Submit applications within 30 days of the effective date or establishment of limits, standards, or schedules pursuant to the CD.	24.B	Navajo's understanding is that ¶16 NOx limits for boilers and heaters, which require permit application filing within 120 days after start-up under ¶16.D, are not subject to ¶24.B. No other limits under Section V have occurred to date.

Section V, Paragraph 25: Obtaining Construction Permits

Requirements	CD Paragraph	Status/Comment
Utilize best efforts to obtain construction permits to implement control projects required by the CD.	25	Requirement Completed. The 5/28/02 NSR permit revision application for the Artesia refinery represented the installation of the

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Requirements	CD Paragraph	Status/Comment
		FCCU wet gas scrubber. Navajo submitted an application to NMED on 4/9/03 to install a new crude heater (H-103) at the Lovington refinery. The permit was issued 10/15/03. H-103 began operation in 12/03. Since heater H-103 replaced H-101 (i.e., the existing crude heater which requires burner retrofit by 12/05 under the CD) and uses NGULNBs, this effectively achieves early implementation of the NOx emission reductions sought by the CD. In order to retrofit heater H-20 with NGULNB by 12/31/05, Navajo submitted a significant revision air permit application to NMED on 04/12/05. Since NMED had not completed the application review, a waiver allowing limited construction activities to begin was granted on 10/11/05. Permit 0195-M21, authorizing NGULNB for H-20, was issued by NMED on 11/18/05. An air permit application proposing the installation of NGULNBs in BO-1105 (formerly SG-1101A) and BO-1104 (formerly SG-1101B) was submitted to NMED on 12/21/2007. Permit 0273-M7 authorizing the NGULNBs in SG-1101A and SG-1101B was issued by NMED on 05/06/2008. Navajo subsequently decided to replace the existing boilers with new boilers using NGULNBs. Permit 0273-M7-R1 authorizing the replacement boilers was issued by NMED on 10/14/2009. The installation of NGULNB in BO-1105 was completed 06/20/2013. The installation of BO-1104 NGULNB was completed 07/29/2013. H-600: Air permit 0195-M25-R3 authorizing the burner retrofit was issued by NMED on 05/14/08. The retrofit was completed in 02/2009.

3.0 SUMMARY OF ANTICIPATED PROBLEMS IN IMPLEMENTING THE REQUIREMENTS OF SECTION V.

None at this time.

4.0 SUMMARY OF EMISSIONS DATA

- The Boiler B-7 initial performance stack test and CEMS RATA was conducted on 12/18/2002 and the results submitted to the NMED on 01/31/2003.
- The Boiler B-8 initial performance stack test and CEMS RATA was conducted on 10/29/2003 and the results submitted to the NMED on 12/08/2003.
- The Heater H-601 initial performance stack test was conducted on 03/02/2004 and the results were submitted to the NMED on 05/14/2004.
- The Heater H-103 (replacement for H-101) initial performance stack test was conducted on 03/04/2004 and the results were submitted to the NMED on 05/14/2004.
- Data was collected for reporting pursuant to Paragraph 11 (e.g., FCCU NO_x optimization and demonstration period data.) NO_x Additive Demonstration Period report with proposed NO_x concentration-based limits submitted 07/27/2006.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on February 14 and 15, 2006 and the results were submitted to the NMED on 03/15/2006.
- The FCCU Regenerator Scrubber annual PM test was conducted on 02/15/2006 and the results were submitted to the NMED on 03/15/2006.
- Heater H-20 was retrofit with NGULNBs in December 2005. A performance stack test was conducted on 02/16/2006 and the results were submitted to the NMED on 03/23/2006.
- Heaters H-352, H-353, and H-354 (formerly identified as 70-H1/H2/H3) were retrofit with NGULNBs in June 2006. A performance stack test was conducted on 07/11/2006 and the results were submitted to the NMED on 08/15/2006.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 09/26/2006 and the results submitted to the NMED on 10/17/2006.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/24/2007 and the results were submitted to the NMED on 02/22/2007.
- The FCCU Regenerator Scrubber annual PM test was conducted on 01/24/2007 and the results were submitted to the NMED on 02/22/2007.
- The Heater H-20 annual performance stack test was conducted on 01/25/2007 and the results were submitted to the NMED on 02/22/2007.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 09/13/2007 and 09/12/2007 respectively, and the results submitted to the NMED on 10/11/2007.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/22/2008 and the results were submitted to the NMED on 02/18/2008.
- The FCCU Regenerator Scrubber annual PM test was conducted on 01/22/2008 and the results were submitted to the NMED on 02/18/2008.
- The Heater H-20 annual performance stack test was conducted on 01/23/2008 and the results were submitted to the NMED on 02/18/2008.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 09/09/2008 and the results submitted to the NMED on 10/09/2008.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 03/03/2009 and the results were submitted to the NMED on 03/30/2009.
- The FCCU Regenerator Scrubber annual PM test was conducted on 03/03/2009 and the results were submitted to the NMED on 03/30/2009.
- Heater H-600 was retrofit with NGULNBs in 02/2009. The Heater H-600 initial performance stack test was conducted on 03/04/2009 and the results were submitted to the NMED on 03/30/2009.

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- The Heater H-20 annual performance stack test was conducted on 03/05/2009 and the results were submitted to the NMED on 03/30/2009.
- After adding additional burners, the Heater H-103 (replacement for H-101) performance stack test and NOx CEMS RATA was conducted on 05/21/2009 and the results were submitted to the NMED on 06/22/2009.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 09/17/2009 and the results submitted to the NMED on 10/14/2009.
- The BO-1105 (replacement boiler for Lovington boiler BSG-1101A) initial performance testing was conducted 01/26/2010 and the report submitted to NMED on 02/24/2010.
- The BO-1104 (replacement boiler for Lovington boiler BSG-1101B) initial performance testing was conducted 01/28/2010 and the report submitted to NMED on 02/24/2010.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 03/02 and 03/2010 and the results were submitted to the NMED on 04/05/2010.
- The FCCU Regenerator Scrubber annual PM test was conducted on 03/02 and 03/2010 and the results were submitted to the NMED on 04/05/2010.
- The Heater H-20 annual performance stack test was conducted on 03/04/2010 and the results were submitted to the NMED on 04/05/2010.
- The Heater H-103 (replacement for H-101) NOx CEMS RATA was conducted on 05/19/2010 and 05/20/2010, and the results were submitted to the NMED on 06/16/2010.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 08/24/2010 and the results submitted to the NMED on 09/14/2010.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 03/01/2011 and the results were submitted to the NMED on 03/28/2011.
- The FCCU Regenerator Scrubber annual PM test was conducted on 03/01/2011 and the results were submitted to the NMED on 03/28/2011.
- The Heater H-20 annual performance stack test was conducted on 03/02/2011 and the results were submitted to the NMED on 03/28/2011.
- The Boiler B-7and Boiler B-8 annual CEMS RATA's were conducted on 08/16/2011 and the results submitted to the NMED on 09/16/2011.
- The Heater H-103 (replacement for H-101) NOx CEMS RATA was conducted on 05/3/2011 and the results were submitted to the NMED on 05/31/2011.
- The Heater H-20 annual performance stack test was conducted on 01/19/2012 and the results were submitted to the NMED on 02/27/2012.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/17/2012. Report showing certification submitted to NMED on 02/17/2012.
- The FCCU Regenerator Scrubber annual PM test was conducted on 01/17/2012. Report showing certification submitted to NMED on 02/17/2012.
- The Heater H-103 (replacement for H-101) NOx CEMS RATA was conducted on 05/24/2012, and the results were submitted to the NMED on 06/20/2012.
- The Boiler B-7and Boiler B-8 annual CEMS RATA's were conducted on 08/15/2012 and the results submitted to the NMED on 09/13/2012.
- The Heater H-20 annual performance stack test was conducted on 01/09/2013 and the results were submitted to the NMED on 02/07/2013.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/08/2013. Report showing certification submitted to NMED on 02/07/2013.
- The FCCU Regenerator Scrubber annual PM test was conducted on 01/08/2013. Report showing certification submitted to NMED on 02/07/2013.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/14/2013, and the results were submitted to the NMED on 06/10/2013.

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- The FCCU Regenerator Scrubber annual PM was retested on 03/05/2013. Report showing certification submitted to NMED on 04/01/2013.
- The Boiler B-7 annual CEMS RATA's was conducted on 08/07/2013 and the results submitted to the NMED on 09/17/2013.
- The Boiler B-8 annual CEMS RATA's was conducted on 08/06/2013 and the results submitted to the NMED on 09/17/2013.
- The Heater H-20 annual performance stack test was conducted on 01/09/2014 and the results were submitted to the NMED on 02/04/2014.
- The FCCU Regenerator Scrubber annual PM was tested on 01/08/2014. Report showing certification submitted to NMED on 02/04/2014.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/08/2014. Report showing certification submitted to NMED on 02/04/2014.
- After the installation of NGULNB was completed, the BO-1105 (replacement boiler for Lovington boiler BSG-1101A) initial performance testing was conducted 07/12/2013 and the report submitted to NMED on 08/06/2013.
- After the installation of NGULNB was completed, the BO-1104 (replacement boiler for Lovington boiler BSG-1101B) initial performance testing was conducted 09/04/2013 and the report submitted to NMED on 12/05/2013.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/13/2014, and the results were submitted to the NMED on 06/12/2014.
- The Boiler B-7 annual CEMS RATA's was conducted on 07/30/2014 and the results submitted to the NMED on 09/11/2014.
- The Boiler B-8 annual CEMS RATA's was conducted on 07/29/2014 and the results submitted to the NMED on 09/11/2014.
- The Heater H-20 annual performance stack test was conducted on 02/17/2015 and the results were submitted to the NMED on 03/09/2015.
- The FCCU Regenerator Scrubber annual PM was tested on 01/06/2015. Report showing certification submitted to NMED on 02/05/2015.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/06/2015. Report showing certification submitted to NMED on 02/05/2015.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/06/2015, and the results were submitted to the NMED on 06/04/2015.
- The Boiler B-7 annual CEMS RATA's was conducted on 07/23/2015 and the results submitted to the NMED on 08/20/2015.
- The Boiler B-8 annual CEMS RATA's was conducted on 07/22/2015 and the results submitted to the NMED on 08/20/2015.
- The Heater H-20 annual performance stack test was conducted on 01/07/2016 and the results were submitted to the NMED on 02/05/2016.
- The FCCU Regenerator Scrubber annual PM was tested on 01/05/2016. Report showing certification submitted to NMED on 02/04/2016.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/05/2016. Report showing certification submitted to NMED on 02/04/2016.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/04/2016, and the results were submitted to the NMED on 06/03/2016.
- The Boiler B-7 annual CEMS RATA's was conducted on 07/13/2016 and the results submitted to the NMED on 08/05/2016.
- The Boiler B-8 annual CEMS RATA's was conducted on 07/13/2016 and the results submitted to the NMED on 08/05/2016.
- The Heater H-20 annual performance stack test was conducted on 01/05/2017 and the results were submitted to the NMED on 02/03/2017.

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- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/03/2017. Report showing certification submitted to NMED on 02/03/2017
- The FCCU Regenerator Scrubber annual PM was conducted on 01/03/2017. Report showing certification submitted to NMED on 02/04/2017.
- The Boiler B-7 annual CEMS RATA's was conducted on 06/21/2017 and the results submitted to the NMED on 06/20/2017
- The Boiler B-8 annual CEMS RATA's was conducted on 06/21/2017 and the results submitted to the NMED on 06/20/2017.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 04/25/2017, and the results were submitted to the NMED on 05/16/2017.

Consistent with past reports, any emissions excursions from Consent Decree limits have generally been reported to NMED pursuant to the NSPS, MACT and/or Title V programs semiannually (as well as pursuant to NMED's excess emissions reporting program). We are in this report identifying emissions excursions that occurred in the 4th quarter 2017 for the emission limits and units below. For the flares at Artesia and Lovington, excess emission information for events occurring during the semiannual period: July-December 2017 will be reported in the semiannual NSPS Ja monitoring report due on January 30, 2018, and will be attached to the 1st quarter 2018 Consent Decree Progress Report.

Consent Decree Condition V.13.B FCCU PM Emission Limits

1 lb PM/ 1,000 lb Coke Burn 3-hr average		
Start Time	End Time	Maximum recorded 3-hour average (lb PM/ 1,000 lb Coke Burn)
2017-11-11 19:00	2017-11-12 06:00	7.54
2017-11-24 10:00	2017-11-25 04:00	69.74

Consent Decree Condition V.14.B FCCU CO Emission Limits

CO 500 ppm 1-hr average		
Start Time	End Time	Excess Emissions per Event (lbs)
2017-11-11 18:00	2017-11-12 06:00	3,584.31
2017-11-28 07:00	2017-11-28 08:00	0.69
2017-12-29 19:00	2017-12-29 20:00	56.48

Consent Decree Condition V.18.B: SRU SO₂ Emission limits

SRU-2

SO ₂ 250 ppm 12-hr average		
Start Time	End Time	Excess Emissions per Event (lbs)
2017-10-07 13:00	2017-10-08 09:00	186.19

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

5. Implementation of ENVIRONMENTALLY beneficial Projects*[Changes from Prior Quarter Italicized]*

Paragraph 35 requires certain information to be submitted for each project which has been completed. The projects for Paragraphs 30 and 32 have been completed. The following summarizes the status of the completed and ongoing projects, and highlights actions taken thus far:

A. Section V, Paragraph 29: Refinery-wide Compliance with NSPS Subpart QQQ

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Submit Compliance Plan within 180 days of CD Date of Lodging.	29.A	The plan was submitted on May 29, 2002
NSPS QQQ becomes applicable to Artesia and Lovington individual drain systems, oil-water separators, and aggregate facilities by 12/31/03	29.B	Prior to 12/31/03, Navajo began operation of the new covered wastewater separator, completed the bypass of the South Plant API, installed covers on junction boxes and initiated drain inspections for the Artesia refinery. Junction boxes at the Lovington refinery were also covered and the routine inspection of drains (to assure proper water seal) was begun. Navajo otherwise ceased the use of an open culvert for draining oily process wastewater into the sewer. In early September 2010, it was discovered that the storm water catch basin of the Alkylation Unit Tar Pit could still receive some oily-water and therefore could be considered as a junction box. A cover for the storm water basin was designed, constructed, and installed by 11/12/2010. In July 2014, it was discovered that visual inspections were not conducted initially and semiannually as required by 40CFR 60.692-2 (07/11/2014 self-disclosure letter to NMED. Certified Receipt Number: 70073020000030288246). A recent third party review of the QQQ program indicated that there may be a potential issue regarding certain aspects of the drain systems at the refinery. This is currently under further evaluation.

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B. Section V, Paragraph 30: Operation of the 40 LTPD SRU (SRU1) on Standby
Artesia SRP (No SRU at Lovington):

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Complete installation of equipment on SRU1 to allow operation in standby service by 12/31/03	30	SRU1 was started up again on 5/10/03 operating at a reduced rate in backup service. A new 100 long ton per day sulfur recovery unit (SRU3) began operating 05/11/2009. The combined capacity of SRU2 and SRU3 provides excess sulfur recovery capacity. Therefore, as an energy and emissions conservation measure, SRU1 is no longer operated in standby service.
Complete study plan on how to limit excess TGU emissions and Acid Gas Flaring by 2/28/04	30	Acid Gas Flaring and TGU Excess Emissions Study Plan submitted 2/27/04. Pursuant to the plan, Navajo completed the study and submitted a 3/24/05 summary of the study including actions taken and recommendations. The study results were used to update the PMO plan with the modified PMO plan included with the 3/24/05 submittal.

C. Section V, Paragraph 31: Installation of Spare FCCU Wet Gas Compressor
Artesia FCCU (No FCCU at Lovington):

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Complete installation of spare wet gas compressor by 12/31/03. Operate so as to minimize the duration of AG or HC flaring incidents during outages of the original compressor.	31	A spare wet gas compressor was installed during the 4 th Quarter of 2003 FCCU turnaround. On 01/07/2011, Navajo's outside legal counsel submitted a request to modify or remove this paragraph. Operating procedures to minimize the duration of AG flaring were updated 04/30/2015. A preventive maintenance plan for the spare compressor C-0950 was completed on 05/11/2015.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

D. Section V, Paragraph 32: Supplemental Environmental Project (SEP) Benefiting the Artesia Community

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Complete implementation of SEP to benefit the Artesia community by June 30, 2003	32	Navajo completed the community SEP prior to the revised 9/29/03 deadline and submitted cost certification data on 9/23/03 pursuant to Paragraph 91. The SEP installed mechanical mixers to replace air mixers on nine asphalt storage tanks to reduce odors. The tanks were T-0110, T-0404, T-0405, T-0406, T-0409, T-0410, T-0428, T-0431, and T-0432. T-0404, T-0405, T-0406, and T-0409, and T-0428 have been permanently removed from service.

E. Section V, Paragraph 33: EMS Baseline Assessment for Artesia Refinery

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Obtain NMED approval for Independent Contractor to perform the baseline assessment	33.C	Completed via letter from NMED dated 4/19/02.
Execute contract with Independent Contractor	33.D	Completed as of 4/15/02
Baseline Assessment Report to be received by Navajo within 210 days of Date of Lodging	33.E	Navajo received the baseline assessment report on 7/17/02.
Navajo to implement recommendations in accordance with the baseline report schedule	33.F	Navajo has accepted the recommendations and schedule deadlines provided in the baseline report (the 8 recommendations are numbered in parenthesis in the discussion below). For the two (i.e., 1A and 5) recommendations with 10/1/02 deadlines, Navajo implemented both on time (i.e., prior to the deadline). The report to file required by CD ¶33.F.ii was completed 12/27/02.

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Environmentally Beneficial Project	CD Paragraph	Status/Comment
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Navajo did the roll-out of the refinery environmental policy (1B) and put environmental responsibilities (3) into a new specifically developed operator's manual prior to the baseline report recommendation deadline (i.e., 2/1/03 and 3/1/03, respectively).
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	The position descriptions (6) which were recommended for Navajo's Environmental Affairs Department staff were prepared and distributed prior to the 7/1/03 deadline. An independent consultant performed an on-site evaluation of Navajo's implementation of the recommendations and prepared a 6/23/03 evaluation report prior to the 6/30/03 deadline.
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Per the independent consultant's June 2003 evaluation report, the 9/1/03 original deadline for the recommended CBT training module (2) was revised to 3/1/04.
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Work commenced in November 2003 on developing the CBT training module (2). The CBT module was completed and rolled out on 2/27/04, thus meeting the 3/1/04 deadline. The decision was made to implement (7) via the electronic option (6/1/04 deadline). Recommendation No. 8A, "Develop Environmental Records Retention Policy and Document Control Procedures" was implemented prior to the 12/1/03 deadline.
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Completed the evaluation of the LDAR program, process and procedures (4) on 6/3/04 and determined that the program is working as intended. Integrated compliance requirements calendar (7) was implemented prior to the 6/1/04 deadline. Completed work to implement the environmental records management system (8B) during May 2004 with the aid of an outside consultant. The records management system is in place and working. An independent consultant conducted the implementation evaluation presented in a June 30, 2004 report, thus meeting the deadline. A final closure letter on the EMS improvement recommendations was issued September 30, 2004 by the consultant concluding no remaining EMS improvement actions for Navajo.

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6.0 OTHER MATTERS

The recent implementation of flare monitoring requirements under NSPS Ja resulted in the identification and repair of several relief valves that were leaking to the flare. In addition, three flare gas streams with higher sulfur levels were identified as routed to the Lovington flare. These three streams were rerouted to the fuel gas system. As of November 11, 2015, all gas streams currently routed to the flares are being monitored for compliance with the NSPS Ja requirements. Excess emission information for the flares at Artesia and Lovington for the semiannual period: January-June 2016 was included in Attachment 4 to the 3rd quarter 2016 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2016 was included in the semiannual NSPS monitoring report submitted on January 30, 2017, and was attached to the 1st quarter 2017 Consent Decree Progress Report. Excess emission information for events occurring during the semiannual period: January-June 2017 was reported in the semiannual NSPS Ja monitoring report submitted on July 28, 2017, and was attached to the 3rd quarter Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2017 will be included in the semiannual NSPS monitoring report due on January 30, 2018, and will be attached to the 1st quarter 2018 Consent Decree Progress Report.

Pursuant to CD Paragraph 20.A.viii, Navajo is submitting a follow-up for those corrective actions that were identified in the following Hydrocarbon Flaring and Tail Gas Incident Reports and that have since been completed.

Incident Ending	HCI/ TGI	Corrective Actions Identified in HCI/TGI Reports	Status/Comment
07/27/2016	HCI	1. Establish Tower top minimum temp to drive salt and dew point out of tower. Establish dynamic dew point calculator on DCS for low alarm. Set tower top temp LL at 350 F until then. 2. Monitor and report salt point and dew point on monthly unit report and ensure top temp is above salt and dew point. 3. Evaluate oil/water separation in D-3405 and D-3411. 4. Create inspection plan for stripper tower to monitor if corrosion is occurring. 5. Evaluate need for inspection of the tower at next cat change. 6. Complete comparison with sister units.	Items 1 and 2 were completed on 06/29/2017 and 12/15/2016, respectively and were previously reported. Item 4 completed on 01/23/2017. Item 5 was completed on 08/29/2017. The completion of items 3 and 6 is scheduled for 07/22/2018.

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08/25/2016	HCI	1. Create Matrix to provide guidance on conserving H2, BFW, and steam. 2. Identify potential capital improvements to steam system. 3. Install governor to better control P-831 speed.	Corrective actions 1 and 2 were completed on 12/21/2017. Item 3 was completed during the last unit turnaround, on 03/31/2017.
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ATTACHMENT 1

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**REPORTS, PLANS AND CERTIFICATIONS
UNDER THE BENZENE WASTE NESHAP ENHANCED PROGRAM
PROVISIONS OF PARAGRAPH 22 OF THE CONSENT DECREE IN
UNITED STATES ET AL. V. NAVAJO REFINING CO. ET AL.**

<u>Name or Summary of the Report, Plan, or Certification</u>	<u>CD Sub-Para No.</u>	<u>Rqd. ("R") v. Contingent ("C")</u>	<u>One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")</u>	<u>Due Date</u>	<u>Status</u>
BWN Compliance Review and Verification Report	C.i.	R	1	270 days after Lodging	Review completed 09/11/2002. Report submitted 10/09/2002
Amended BWN Compliance Review and Verification Report	C.ii.	C	1	90 days after completing additional sampling requested by EPA	Not Yet Applicable. EPA has not requested additional sampling.
Amended TAB Report	D.i	C	1	60 days after completing BWN Compliance Review and Verification Report	An Amended Report for the Artesia Refinery (>1 Mg, <10 Mg) was Submitted 10/09/2002 with the Verification Report
Plan to comply w/ 6 BQ if TAB equals or is greater than 10	D.ii; J.vi.	C	1	180 days after completing BWN Compliance Review and Verification Report	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report

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Compliance Certification	D.iv	C	1	30 days after completing all actions necessary to come into compliance	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report.
Waste/Slop/Off-Spec Oil Schematics	H.i.	R	1	90 days after Lodging	Submitted on 03/19/2002. Revised plan reflecting plant modifications submitted 04/29/2004. Schematics are awaiting written approval by EPA.
Submit revised Waste/Slop/Off-Spec Oil Schematics reflecting agreement with EPA on comments.	H.i.	C	1	Mutually-agreed upon time between Navajo and/or Montana Refining and EPA	Not Applicable until EPA confers with Navajo on the Waste/Slop/Off-Spec Oil Schematics.
Schedule to complete installation of controls on waste management units handling organic benzene waste	H.ii.	C	1	Mutually-agreed upon time between Navajo and/or Montana Refining and EPA, not to exceed 2 years	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report
Plan to quantify uncontrolled waste/slop/off-spec oil movements	H.iv.	R	1	90 days after EPA has approved schematics	Not Applicable until EPA provides written approval of the Waste/Slop/Off-Spec Oil Schematics. Although EPA has not commented on or approved the schematics submitted under paragraph 22.H.i, Navajo has quantified the uncontrolled waste/slop/off-spec oil movements in the annual NESHAP Subpart FF Total Annual Benzene (TAB) report.

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EOL Sampling Plan	Li; J.ii	C	1	2 months after the 22.D.iii Certification (if TAB is 10 mg/yr or greater); 90 days after submitting final BWN Compliance Review and Verification Report (if TAB is 1 Mg/yr or more but less than 10)	EOL Sampling Plan submitted on 02/06/2003.
EOL Revised Sampling Plan	Lii; J.ii.	C	As needed	If and when Navajo and/or Montana Refining become aware of factors indicating original plan no longer accurately reflects EOL benzene quantity	Revised EOL Sampling Plan submitted 03/31/2004.
Applicable after refinery TAB exceeds 10 Mg/yr - Plan to ensure that uncontrolled benzene does not equal or exceed, 6 Mg/yr or that it is minimized	L.vii;	C	As needed	30 days after the end of the quarter in which the projected calendar year benzene quantity is equal to or greater than 6 Mg.	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report.

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Applicable if refinery TAB is > 1 but < 10 Mg/yr - Plan to ensure that uncontrolled benzene does not equal or exceed, as applicable, 10 Mg/yr or that it is minimized	J.iv-J.v	C	As needed	30 days after the end of the quarter in which the projected calendar year benzene quantity is equal to or greater than 10 Mg.	The 2007 4th quarter EOL benzene quantity exceeded 2.5 Mg, but the calendar year 2007 TAB did NOT exceed 10 Mg. Because the calendar year is over, and the TAB did not exceed 10 Mg in the calendar year, submittal of a plan to prevent the calendar year TAB from exceeding 10 Mg, as required under ¶ 22.J.iv, becomes moot. As required by ¶ 22.M.ii.a(3), Navajo specifically sought EPA's concurrence with this interpretation but no response has been received. The EOL BQ for the 1st quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr. The required plan was included as a supplement to the 2nd quarter report. Navajo specifically sought EPA's concurrence with this plan but no response has been received. The EOL BQ for the 3rd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr (see Attachment 3). The required plan was included as a supplement to the 3rd quarter report. As required by ¶ 22.M.ii.a(3), Navajo specifically sought EPA's concurrence with this plan but no response has been received. The EOL BQ for the 4th quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr so no plan was required. The EOL BQs for the 1st, 2nd, 3rd and 4th quarters of 2009 were <2.5 Mg and the projected 2009 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2010 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2011 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan is required. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2012 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan is required.

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					The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2013 were each <2.5 Mg and the projected 2012 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st and 2nd quarters of 2014 was <2.5 Mg and the projected 2014 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2014 were <2.5 Mg and the projected 2014 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 4th quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2016 exceeded 2.5 Mg but the calendar year 2016 TAB did NOT exceed 10 Mg. As the first two quarters of 2016 indicated significantly lower concentrations of benzene in the wastewater, the projected TAB remained below 10 Mg for the calendar year, and as such no specific actions need to be taken to ensure the TAB does not exceed 10Mg. Regardless of that, however, Navajo developed a plan of targeted monitoring to help identify and address the benzene contributions during the third quarter. The plan was implemented by November 4, 2016

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					(attachment 4). The EOL BQ for the 4th quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr.

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Proposal for Third-Party TAB Study and Compliance Review	I-viii; J.vi	C	1	Last day of 4 th Quarter as set forth in ¶ I.viii. (if TAB is 10 mg/yr or greater); As agreed by EPA and Navajo and/or Montana Refining (if TAB is 1 Mg/yr or more but less than 10)	Not Applicable unless refinery cannot take actions to keep TAB below 10 Mg/yr.
Third-Party TAB Study and Compliance Review	I-viii; J.vi	C	1	30 days after receipt of the Third-Party Study and Compliance Review	Not Applicable unless refinery cannot take actions to keep TAB below 10 Mg/yr.
Plan to implement the results of the Third-Party TAB Study and Compliance Review	J.vi;	C	1	120 days after receipt of the Third-Party TAB Study and Compliance Review	Not Applicable unless refinery cannot take actions to keep TAB below 10 Mg/yr.

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Report on training done in that Quarter	G.i-iii.; Mii-a(1)	C	Q	Each Quarterly Report due under the Consent Decree	A training plan was developed 12/6/02 for the Artesia Refinery (i.e., since its TAB is greater than 1.0 Mg/yr). The first training session was held 1/7/03 at both the Artesia and Lovington refineries. The second training session for the two refineries was held 1/27/04 and 1/28/04. Annual refresher training performed the weeks of 2/8/05, 3/27/06, 3/5/07, 2/25/08 (Lov), 11/07/08 (Art), 12/18/09, 12/17/2010 and 12/20/2011, 11/08/2012, 01/14/2013, 04/18/2013 11/12 to 11/14/2013, 05/24/2014, 06/19/2014, 06/20/2014, 12/02/2014, 3/16/2015, 4/1/2015, 5/15/2015, 2/29/2016, 3/8/2016, 3/17/2016 (Art. and Lov), 02/28/2017 (Artesia and Lovington) and 08/29/2017 (Artesia and Lovington).

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Results of annual sampling of >0.05 Mg/yr benzene streams	J.i; Mii-a(2)	C	Q	In the first Quarterly Report for the first calendar quarter of each year	The annual sampling was performed in February 2005. The results were presented with the first quarter 2005 report. Annual sampling was performed in February 2006. The results were presented in Attachment 4 with the first quarter 2006 report. Annual sampling was performed in September and December 2007. The results were submitted in attachment 4 of the first quarter 2008 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2008. The results were submitted in attachment 4 of the first quarter 2009 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2009. The results were submitted in Attachment 4 of the first quarter 2010 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2010. The results were submitted in Attachment 4 of the first quarter 2011 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2011. The results were submitted in Attachment 4 of the first quarter 2012 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2012. The results were submitted in Attachment 4 of the first quarter 2013 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2013. The results were submitted in Attachment 4 of the first quarter 2014 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2014. The results were submitted in Attachment 4 of the 1st quarter 2015 report as required by ¶22.M.ii.a(2).
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Results of annual sampling of >0.05 Mg/yr benzene streams	J.i; Mii-a(2)	C	Q	In the first Quarterly Report for the first calendar quarter of each year	Annual sampling was performed in December 2015. The results were included in Attachment 4 of the 1 st quarter 2016 report as required by ¶22.M.ii.a(2). Annual sampling was performed in October 2016. The results were included in Attachment 4 of the 1 st quarter 2017 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2017. The results will be included in Attachment 4 of the 1 st quarter 2018 report as required by ¶22.M.ii.a(2).
Results of Quarterly EOL Sampling	J.iii; M.ii.a(3); M.ii-b(2)	C	Q	Each Quarterly Report due under the Consent Decree (after written EPA approval of EOL sampling plan)	2004: Under the assumption that the sampling plan was accepted by EPA upon the 03/31/2004 submittal of the revised EOL Sampling Plan, Navajo conducted its first EOL sampling during the week of 3/22/04. The annual TAB, submitted 4/05 was 4.9 Mg for Artesia and 1.5 Mg for Lovington. 2005: The EOL benzene quantity (BQ) for the 1 st , 2 nd , 3 rd , and 4 th quarter of 2005 were each <2.5 Mg. 2006: The EOL BQ for the 1 st , 2 nd , 3 rd , and 4 th quarters of 2006 were each <2.5 Mg. 2007: The 1 st , 2 nd , and 3 rd quarter 2007 EOL BQs were each < 2.5 Mg. The 2007 4 th quarter EOL benzene quantity exceeded 2.5 Mg, but the calendar year 2007 TAB did NOT exceed 10 Mg. 2008: The EOL BQ for the 1 st quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr. The EOL BQ for the 2 nd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr. The EOL BQ for the 3 rd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr. The EOL BQ for the 4 th quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr. 2009: The EOL BQ for the 1 st , 2 nd , 3 rd and 4 th quarters of 2009 were <2.5 Mg and the projected 2009 TAB was < 10 Mg/yr so no plan was required. 2010: The EOL BQ for the 1 st , 2 nd , 3 rd , and 4 th quarters of 2010 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan was required. 2011: The EOL BQ for the 1 st , 2 nd , 3 rd and 4 th quarters of 2011 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan is required.

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					2012: The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2012 was <2.5 Mg and the projected 2012 TAB was < 10 Mg/yr so no plan is required. 2013: The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2013 was <2.5 Mg and the projected 2012 TAB was < 10 Mg/yr so no plan is required. 2014: The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2014 were <2.5 Mg and the projected 2014 TAB was < 10 Mg/yr so no plan was required. 2015: The EOL BQ for the 1st quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 4th quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. 2016: The EOL BQ for the 1st quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2016 exceeded 2.5 Mg. As required by paragraph 22.J.iv, Navajo submits the following plan that identifies the specific actions that will be taken, and the schedule for such actions, to ensure the TAB does not exceed 10Mg in the calendar year As the first two quarters of 2016 indicated significantly lower concentrations of benzene in the wastewater, the projected TAB remained below 10 Mg for the calendar year, and as such no specific actions need to be taken to ensure the TAB does not exceed 10Mg. Regardless of that, however, Navajo developed a plan of targeted monitoring to help identify and address the benzene contributions during the third quarter. The plan was implemented by November 4, 2016 (attachment 4). The EOL BQ for the 4th quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. 2017: The EOL BQ for the 1st quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr.
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HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 1 TO 4th QUARTER 2017 STATUS REPORT
APPENDIX G STATUS SUMMARY REPORT

					The EOL BQ for the 3 rd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 4 th quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr.
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ATTACHMENT 2

APPENDIX H SUMMARY REPORTS

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 4th QUARTER 2017 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

**REPORTS, PLANS AND CERTIFICATIONS
 UNDER THE LDAR ENHANCED PROGRAM
 PROVISIONS OF PARAGRAPH 23 OF THE CONSENT DECREE IN
 UNITED STATES, ET AL. V. NAVAJO REFINING CO., ET AL.**

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Written Refinery-Wide LDAR Program	A; O.i.a	R	1	150 D after Lodging	Prepared by 4/19/02 and Submitted 5/13/02
Updated Refinery-Wide LDAR Program	A	C	1	As needed	LDAR plan updated 11/19/2009, 01/05/2011, 04/28/2014 (approved 7/22/2014).

HollyFrontier Navajo Refining LLC
Artesia and Lovington Refineries

ATTACHMENT 2 TO 4th QUARTER 2017 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Report on training for new LDAR personnel	B.i; O.ii-c(1)	R	>1	In each Section 63.654 Report	Training addressed in 63.654 Report submitted 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011 06/08/2011, 07/10/2012, 09/10/12, 11/06/2012, 12/11/2012, 01/13/2013, 05/02/2013, 05/08/2013, 05/15/2013, 02/08/2013 03/09/2013 and 09/16/2014 (for Artesia and Lovington). New hire training was conducted 06/08/2011, 07/10/2012, 09/10/12, 11/06/2012, 12/11/2012, 01/13/2013, 05/02/2013, 05/08/2013, 05/15/2013, 02/08/2013, 12/9/2013, 03/22/2014, 03/31/2014, 04/01/2014, 06/18/14, 06/19/14, and 06/20/2014. Annual LDAR Computer Based Training (CBT) implemented during the fourth quarter 2014 for all refinery and contractor personnel. First training completed before 12/31/2014. Annual LDAR Computer Based Training (CBT) for new personnel completed during 2015. Annual CBT completed during 2016, and also on 4/28/2016, 05/11/2016. Training completed on 04/13/2017, 04/25/2017, 05/20/2017, and 12/01/2017.

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 4th QUARTER 2017 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Report on annual training for LDAR personnel	B.ii; O.ii-c(1)	R	>1	In each Section 63.654 Report	Training addressed in 63.654 Report submitted 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, (for Artesia and Lovington). Annual training was conducted on the following dates by the on-site LDAR contractor: 06/29/2011, 06/14/2012, 06/24/2013, 06/26/2013, 11/12 to 11/14/2014, 01/12/2014, 01/16/2014, 01/20/2014, 01/21/2014, 02/08/2014, 02/10/2014, 6/18/2014, 6/19/2014, and 06/20/2014. Annual LDAR Computer Based Training (CBT) implemented during the fourth quarter 2014 for all refinery and contractor personnel. Annual LDAR (CBT) conducted during 2015. Annual LDAR (CBT) conducted during 2016. Additional 2016 training held on 1/3/2016, 1/6/2016, 1/14/2016, and 1/19/2016, 1/31/2016, 04/28/2016, 05/11/2016, 09/2016, 10/2016, 11/2016, and 12/2016. Training completed on 04/13/2017, 04/25/2017, 05/20/2017, and 12/01/2017.

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 4th QUARTER 2017 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Report on LDAR training for refinery and operations personnel who hold positions relevant to LDAR	B.iii; O.ii-c(1)	R	>1	In each Section 63.654 Report	Initial training program implemented. Training addressed in 63.654 Report submitted 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011, 03/14/2012 and 09/16/2013. Training was conducted on the following dates for refinery environmental personnel: 11/06/2012, 08/13 - 08/15/2013, 05/19 - 5/21/2014, 8/21/2014, 10/02/2014. Annual LDAR Computer Based Training (CBT) implemented during the fourth quarter 2014 for all refinery and contractor personnel. Annual LDAR (CBT) conducted during 2015. Annual LDAR (CBT) conducted during 2016. Additional 2016 training held on 1/3/2016, 1/6/2016, 1/14/2016, and 1/19/2016, 1/31/2016, 04/28/2016, and 05/11/2016. Training completed on 04/13/2017, 04/25/2017, 05/20/2017, and 12/01/2017.

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 4th QUARTER 2017 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
LDAR audit reports and records of corrective actions. <i>Audits are required every two years.</i>	D; O.ii-b.	R	>1	In the Quarterly Report for the 1 st calendar Quarter of each year	Included in the 1st Qtr 2003 report (submitted 04/17/2003) as Attachment 3. 3rd party audits for Artesia and Lovington were performed during December 2004, January 2007, January 2009, and January 2011. Included in the 1st Qtr 2012 report, a copy of the 01/2011 Audit Report and the corrective actions taken were included with the 1st Quarter 2012 report as Attachment 5. The 2013 3rd party audit was conducted from 09/16 to 09/20/2013, after major refinery turnaround, and a complete quarter worth of normal operation data has been collected for comparative monitoring. A copy of the audit report and resolutions were presented in the 1st Quarter 2014 report. 3rd party audits for Artesia and Lovington were performed during the week of October 5th to 9th, 2015. A copy of the 2015 LDAR 3rd party audit report and resolutions are included in Attachment 5 of the 1st Quarter 2016 report. The 2017 LDAR 3rd party audit was conducted from 05/17 to 05/18/2017. A copy of the audit report was attached to the 3rd Quarter Consent Decree Progress Report. The audit resolutions will be included as Attachment 4 to the 1st Quarter 2018 report..

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 4th QUARTER 2017 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports ("≥1")	Due Date	Status
Certification of implementation of the first attempt at repair program	G; O.ii-a(1)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002
Operational specifications for electronic LDAR data collection and transfer	Lii.; O.i-b	R	1	6 mos. after Lodging for Navajo; 1 yr. after Lodging for Montana Refining	Submitted 06/19/2002
Certification of implementation of QA/QC procedures for review of data generated by LDAR monitoring technicians	J; O.ii-a(2)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due.	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002.

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 4th QUARTER 2017 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Identification of each Refinery's LDAR "point" person	K; O.ii-a(3)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002
Certification of the development of a tracking program for new valves and pumps	L; O.ii-a(4)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 4th QUARTER 2017 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Certification of implementation of calibration drift assessment procedures	M; O.ii-a(5)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the requirement becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002
Certification of implementation of the "delay of repair" procedures	N; O.ii-a(6)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the requirement becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 4th QUARTER 2017 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
LDAR monitoring report submitted with MACT periodic reports	O; O.ii-c(2)	R	>1	In each Section 63.654 Report	Provided in MACT 63.654 Reports submitted: 3/15/02, 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011, 09/15/2011, 03/09/2012, 0/06/2012 (09/06/2012 for Lovington), and 03/15/2013, 09/16/2013, (Lovington and Artesia) 02/25/2014 (Artesia), 08/26/2014 (Lovington), and 02/26/2015 (Artesia and Lovington), 08/27/2015, 2/18/2016 (Artesia and Lovington), 08/29/2016 (Artesia and Lovington), 02/28/2017 (Artesia and Lovington), and 08/29/2017 (Artesia and Lovington).

ATTACHMENT 3

**QUARTERLY EOL AND SAMPLING RESULTS
(Paragraph 22.M.ii.a(3))**

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

End of Line Sampling Report
4th Quarter 2017

ATTACHMENT 3 TO 4th QUARTER 2017 STATUS REPORT
QUARTERLY END OF LINE SAMPLING RESULTS

On October 10th, October 19th, November 2nd, and December 5th, 2017, Navajo Refining's Artesia facility performed the End of Line (EOL) sampling pursuant to the Consent Decree, following the protocol described in Navajo's EOL sampling plan that was revised by a letter dated March 31, 2004, except as noted below for Cement Kiln Fuel (S-4). Due to changes in our wastewater system, the slop oil from our Alky API is diverted through the new wastewater API. Therefore, that stream is now factored into the calculations for the Wastewater API. As a result, Navajo has identified six (6) sampling points that were monitored during the EOL sampling. This included three representative samples for each sampling site, volume measurements, and specific gravity values, collected once a month during the quarter where applicable.

Three representative samples of API sludge material generated during the 4th Quarter of 2017 were collected on 12/19/2017, and the test results are included in this report.

The following calculations estimate the quarterly EOL and calendar year benzene quantities:

Oil from Wastewater API EOL (Mg/qtr) = weeks/quarter x Oil Volume (gal/wk) x lbs. water/gallon x Specific Gravity of oil (dimensionless) x average benzene concentration in oil (ppmw) x grams/lb ÷ 10⁶ g/Mg

Oil from Wastewater API EOL (Mg/qtr) = 13 wks/qtr x 46,109 gals/wk x 8.34 lbs./gallon x 0.99 (dimensionless) x 10.8 lb/10⁶ x 454 g/lb ÷ 10⁶ g/Mg

Oil from Wastewater API EOL = 0.02 Mg/qtr

Wastewater - EOL (Mg/qtr) = days/qtr x Average Flow (gal/day) x Water Density (lbs. water/gal) x Average Benzene Concentration in wastewater (ppmw) x grams/lb ÷ 10⁶ g/Mg

Wastewater - EOL (Mg/qtr) = 92 days/qtr x 720,000 gal/day x 8.34 lbs/gal x 0.70 lb/10⁶ lb x 454 g/lb ÷ 10⁶ g/Mg

Wastewater - EOL = 0.18 Mg/qtr

Cement Kiln Fuel Product EOL (Mg/qtr) = Amount of cement kiln fuel shipped in quarter (lbs/qtr) x Average Benzene Concentration (ppmw) x g/lb ÷ 10⁶ g/Mg

Cement Kiln Fuel Product EOL (Mg/qtr) = 17,940 (lbs/qtr) x 5.0 lb/10⁶ x 454 g/lb ÷ 10⁶ g/Mg

Cement Kiln Fuel Product EOL = 0.09 Mg/qtr

N:\Consent Decree\Subin-Resp\Quarterly Reports\2017 4QT - Att3-EOL Report.doc

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

End of Line Sampling Report
4th Quarter 2017

ATTACHMENT 3 TO 4th QUARTER 2017 STATUS REPORT
QUARTERLY END OF LINE SAMPLING RESULTS

Aqueous Waste Caustic EOL (Mg/qtr) = Amount of aqueous waste caustic shipped in the quarter (total of Tanks 40 and 41) (gal) x lbs/gal x Average Benzene Concentration (ppmw) x g/lb ÷ 10⁶ g/Mg

Aqueous Waste Caustic EOL (Mg/qtr) = 18,759 gal/qtr x 9.64 lbs/gal x 0.025 lb/10⁶ lb x 454 g/lb ÷ 10⁶ g/Mg

Aqueous Waste Caustic EOL = 2.0 E (-6) Mg/qtr *

Waste Caustic Hydrocarbon EOL (Mg/qtr) = days/qtr x avg flow (gal/day) x water density (lbs/ gal) x Specific Gravity (dimensionless) x Average Benzene Concentration (ppmw) x g/lb ÷ 10⁶ g/Mg

Waste Caustic Hydrocarbon EOL (Mg/qtr) = 92 days/qtr x 42 gal/day x 8.34 lbs/gal x 1.17 (dimensionless) x 0.23 lb/10⁶ lb x 454 g/lb ÷ 10⁶ g/Mg

Waste Caustic Hydrocarbon EOL = 4.0 E(-6) Mg/qtr

Therefore, estimated total quarterly benzene equals **benzene in Oil from Wastewater API (Mg/qtr) + benzene in Wastewater (Mg/qtr) + benzene in Cement Kiln Fuel Product (Mg/qtr) + benzene in Aqueous Waste Caustic (Mg/qtr) + benzene in Waste Caustic Hydrocarbon (Mg/qtr).**

Estimated Total Quarterly Benzene = 0.02 Mg/qtr + 0.18 Mg/qtr + 0.09 Mg/qtr + 2.0 E (-6) Mg/qtr + 4.0 E(-6) Mg/qtr

Estimated Quarterly EOL Benzene = 0.29 Mg/qtr

Therefore, the Artesia Refinery's quarterly EOL benzene quantity did not exceed 2.5 Mg/qtr.

Estimated Annual Benzene (AB) Quantity for calendar year 2016

Estimated 2017 TAB = [(1stQ + 2ndQ + 3rdQ + 4th Q) / 4] * 4 = [(0.84 + 0.10 + 0.11 + 0.29) / 4] * 4

Estimated 2017 TAB = 1.34 Mg

The Artesia Refinery's projected calendar year 2017 total annual benzene quantity does not exceed 10 Mg/yr.

The above calculations were determined using the values from the following table and the attached analyses.

N:\Consent Decree\Subm-Resp\Quarterly Reports\2017 4QT - Att3-EOL Report.doc

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

End of Line Sampling Report
4th Quarter 2017

ATTACHMENT 3 TO 4th QUARTER 2017 STATUS REPORT
QUARTERLY END OF LINE SAMPLING RESULTS

TABLE 1
QUARTERLY EOL SAMPLING NAVAJO REFINING

Sampling Point	Volume	Test results Sample Collected 10/03/2017	Test results Sample Collected 11/02/2017	Test results Sample Collected 12/05/2017	Test results Samples Collected 12/19/2017	Average of Samples	Specific Gravity or Density
Oil from Wastewater API (S-1)	46,109 gal/wk	27.00 ppm	5.50 ppm	0.025 ppm ⁺	NA	10.84 ppm	0.99
Wastewater Tanks (S-3)	720,000 gal/day	0.58 ppm	1.50ppm	0.025ppm ⁺	NA	0.70 ppm	1.00
Cement Kiln Fuel (S-4)**	17,940 lbs	NA	NA	NA	S4 (1) = 4.76 ppm S4 (2) = 4.85 ppm S4 (3) = 5.39 ppm	5.00 ppm	NA
Aqueous Waste Caustic Tank 40 (S-5)	18,759 gal/qtr	0.025 ppm ⁺	0.024 ppm ⁺⁺	0.024 ppm ⁺⁺	NA	0.024 ppm	1.13
Aqueous Waste Caustic Tank 41 (S-6)	*	0.024 ppm ⁺⁺	0.025 ppm ⁺	0.025 ppm ⁺	NA	0.025 ppm	1.14
Average of Aqueous Waste Caustic Tanks (S-5 and S-6)	*	0.025ppm	0.025 ppm	0.025 ppm	NA	0.25 ppm	1.14
Waste Caustic Hydrocarbon (S-7)	42 gal/day	0.23 [#]	0.23 [#]	0.23 [#]	NA	0.23 [#]	1.17 [#]

*The volume for Caustic Tank 41 is reflected in the value assigned to Tank 40. The quantity assigned to Tank 40 is the combined volume from BOTH tanks that was shipped out in the quarter.

⁺The Benzene result was below the method detection limit (MDL) of 0.025 ppm. The MDL was used as a conservative approach.

⁺⁺The Benzene result was below the method detection limit (MDL) of 0.024 ppm. The MDL was used as a conservative approach.

[#]No sample could be collected because the hydrocarbon layer was between the sample point draws on the tank. The 1QT average Benzene of 0.23 ppm, specific gravity of 1.17 was used.

**Benzene samples were collected at less than the 24-hour minimum interval between samples specified in the EOL sampling plan.

ATTACHMENT 4

ANALYTICAL REPORTS EOL SAMPLING



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

October 13, 2017

Tyler Turner (Cons. Aqua Microbics)
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS17100323**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Tyler,

ALS Environmental received 9 sample(s) on Oct 05, 2017 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dayna.Fisher
Nicole Edwards
Project Manager

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17100323

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17100323-01	S-1 (API HC)	Liquid		03-Oct-2017 09:29	05-Oct-2017 08:25	☐
HS17100323-02	S-3 (API Water)	Liquid		03-Oct-2017 09:51	05-Oct-2017 08:25	☐
HS17100323-03	S-5 (T-40)	Liquid		03-Oct-2017 09:01	05-Oct-2017 08:25	☐
HS17100323-04	S-6 (T-41)	Liquid		03-Oct-2017 09:05	05-Oct-2017 08:25	☐
HS17100323-05	Field Blank	Liquid		03-Oct-2017 09:35	05-Oct-2017 08:25	☐
HS17100323-06	EQ Blank Port 1	Liquid		03-Oct-2017 10:04	05-Oct-2017 08:25	☐
HS17100323-07	EQ Blank Port 2	Liquid		03-Oct-2017 10:26	05-Oct-2017 08:25	☐
HS17100323-08	Duplicate	Liquid		03-Oct-2017 00:00	05-Oct-2017 08:25	☐
HS17100323-09	Trip Blank	Liquid	040417-71	03-Oct-2017 00:00	05-Oct-2017 08:25	☐

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17100323

CASE NARRATIVE

GCMS Volatiles by Method SW8260**Batch ID: R303074**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R302973**Sample ID: S-5 (T-40) (HS17100323-03), S-6 (T-41) (HS17100323-04)**

- Lowest practical dilution for HS17100323-03, 04 due sample matrix. Surrogates failure also due to sample matrix.

Batch ID: R303290**Sample ID: HS17100423-01MS**

- MS is for an unrelated sample
-

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-1 (API HC)
 Collection Date: 03-Oct-2017 09:29

ANALYTICAL REPORT

WorkOrder:HS17100323
 Lab ID:HS17100323-01
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260				Analyst: WLR	
Benzene	27		0.25	2.5	mg/Kg	500	09-Oct-2017 17:23
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>91.2</i>			<i>70-126</i>	<i>%REC</i>	<i>500</i>	<i>09-Oct-2017 17:23</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>73-120</i>	<i>%REC</i>	<i>500</i>	<i>09-Oct-2017 17:23</i>
<i>Surr: Dibromofluoromethane</i>	<i>93.1</i>			<i>70-130</i>	<i>%REC</i>	<i>500</i>	<i>09-Oct-2017 17:23</i>
<i>Surr: Toluene-d8</i>	<i>100.0</i>			<i>82-121</i>	<i>%REC</i>	<i>500</i>	<i>09-Oct-2017 17:23</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-3 (API Water)
 Collection Date: 03-Oct-2017 09:51

ANALYTICAL REPORT

WorkOrder:HS17100323
 Lab ID:HS17100323-02
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260				Analyst: PC	
Benzene	0.58		0.030	0.25	mg/L	50	12-Oct-2017 16:00
<i>Surr: 1,2-Dichloroethane-d4</i>	96.5			70-126	%REC	50	12-Oct-2017 16:00
<i>Surr: 4-Bromofluorobenzene</i>	92.2			81-113	%REC	50	12-Oct-2017 16:00
<i>Surr: Dibromofluoromethane</i>	93.0			77-123	%REC	50	12-Oct-2017 16:00
<i>Surr: Toluene-d8</i>	102			82-127	%REC	50	12-Oct-2017 16:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-5 (T-40)
 Collection Date: 03-Oct-2017 09:01

ANALYTICAL REPORT

WorkOrder:HS17100323
 Lab ID:HS17100323-03
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260					Analyst: WLR
Benzene	< 0.025		0.025	0.25	mg/Kg	50	09-Oct-2017 16:17
Surr: 1,2-Dichloroethane-d4	91.7			70-126	%REC	50	09-Oct-2017 16:17
Surr: 4-Bromofluorobenzene	93.8			73-120	%REC	50	09-Oct-2017 16:17
Surr: Dibromofluoromethane	55.1	S		70-130	%REC	50	09-Oct-2017 16:17
Surr: Toluene-d8	96.4			82-121	%REC	50	09-Oct-2017 16:17

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-6 (T-41)
 Collection Date: 03-Oct-2017 09:05

ANALYTICAL REPORT

WorkOrder:HS17100323
 Lab ID:HS17100323-04
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260					Analyst: WLR
Benzene	< 0.024		0.024	0.24	mg/Kg	50	09-Oct-2017 16:54
Surr: 1,2-Dichloroethane-d4	90.0			70-126	%REC	50	09-Oct-2017 16:54
Surr: 4-Bromofluorobenzene	97.0			73-120	%REC	50	09-Oct-2017 16:54
Surr: Dibromofluoromethane	58.5	S		70-130	%REC	50	09-Oct-2017 16:54
Surr: Toluene-d8	96.2			82-121	%REC	50	09-Oct-2017 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Field Blank
 Collection Date: 03-Oct-2017 09:35

ANALYTICAL REPORT

WorkOrder:HS17100323
 Lab ID:HS17100323-05
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	10-Oct-2017 05:47
Surr: 1,2-Dichloroethane-d4	85.4			70-126	%REC	1	10-Oct-2017 05:47
Surr: 4-Bromofluorobenzene	105			81-113	%REC	1	10-Oct-2017 05:47
Surr: Dibromofluoromethane	91.4			77-123	%REC	1	10-Oct-2017 05:47
Surr: Toluene-d8	90.1			82-127	%REC	1	10-Oct-2017 05:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 1
 Collection Date: 03-Oct-2017 10:04

ANALYTICAL REPORT

WorkOrder:HS17100323
 Lab ID:HS17100323-06
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	10-Oct-2017 06:12
Surr: 1,2-Dichloroethane-d4	85.7			70-126	%REC	1	10-Oct-2017 06:12
Surr: 4-Bromofluorobenzene	103			81-113	%REC	1	10-Oct-2017 06:12
Surr: Dibromofluoromethane	91.5			77-123	%REC	1	10-Oct-2017 06:12
Surr: Toluene-d8	90.4			82-127	%REC	1	10-Oct-2017 06:12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 2
 Collection Date: 03-Oct-2017 10:26

ANALYTICAL REPORT

WorkOrder:HS17100323
 Lab ID:HS17100323-07
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	10-Oct-2017 06:36
Surr: 1,2-Dichloroethane-d4	85.0			70-126	%REC	1	10-Oct-2017 06:36
Surr: 4-Bromofluorobenzene	102			81-113	%REC	1	10-Oct-2017 06:36
Surr: Dibromofluoromethane	91.7			77-123	%REC	1	10-Oct-2017 06:36
Surr: Toluene-d8	89.0			82-127	%REC	1	10-Oct-2017 06:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Duplicate
 Collection Date: 03-Oct-2017 00:00

ANALYTICAL REPORT

WorkOrder:HS17100323
 Lab ID:HS17100323-08
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	0.58		0.030	0.25	mg/L	50	12-Oct-2017 16:27
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>102</i>			<i>70-126</i>	<i>%REC</i>	<i>50</i>	<i>12-Oct-2017 16:27</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.9</i>			<i>81-113</i>	<i>%REC</i>	<i>50</i>	<i>12-Oct-2017 16:27</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>50</i>	<i>12-Oct-2017 16:27</i>
<i>Surr: Toluene-d8</i>	<i>98.3</i>			<i>82-127</i>	<i>%REC</i>	<i>50</i>	<i>12-Oct-2017 16:27</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Trip Blank
 Collection Date: 03-Oct-2017 00:00

ANALYTICAL REPORT

WorkOrder:HS17100323
 Lab ID:HS17100323-09
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	10-Oct-2017 05:22
Surr: 1,2-Dichloroethane-d4	84.7			70-126	%REC	1	10-Oct-2017 05:22
Surr: 4-Bromofluorobenzene	103			81-113	%REC	1	10-Oct-2017 05:22
Surr: Dibromofluoromethane	91.6			77-123	%REC	1	10-Oct-2017 05:22
Surr: Toluene-d8	90.6			82-127	%REC	1	10-Oct-2017 05:22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17100323

Batch ID: 1978 **Method:** VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS17100323-01	1	5.051 (g)	5 (mL)	0.99	Bulk (5030B)
HS17100323-03	1	5.034 (g)	5 (mL)	0.99	Bulk (5030B)
HS17100323-04	1	5.107 (g)	5 (mL)	0.98	Bulk (5030B)

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17100323

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R302973 Test Name : VOLATILES BY SW8260C Matrix: Liquid						
HS17100323-01	S-1 (API HC)	03 Oct 2017 09:29			09 Oct 2017 17:23	500
HS17100323-03	S-5 (T-40)	03 Oct 2017 09:01			09 Oct 2017 16:17	50
HS17100323-04	S-6 (T-41)	03 Oct 2017 09:05			09 Oct 2017 16:54	50
Batch ID R303074 Test Name : VOLATILES - SW8260C Matrix: Liquid						
HS17100323-05	Field Blank	03 Oct 2017 09:35			10 Oct 2017 05:47	1
HS17100323-06	EQ Blank Port 1	03 Oct 2017 10:04			10 Oct 2017 06:12	1
HS17100323-07	EQ Blank Port 2	03 Oct 2017 10:26			10 Oct 2017 06:36	1
HS17100323-09	Trip Blank	03 Oct 2017 00:00			10 Oct 2017 05:22	1
Batch ID R303290 Test Name : VOLATILES - SW8260C Matrix: Liquid						
HS17100323-02	S-3 (API Water)	03 Oct 2017 09:51			12 Oct 2017 16:00	50
HS17100323-08	Duplicate	03 Oct 2017 00:00			12 Oct 2017 16:27	50

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17100323

QC BATCH REPORT

Batch ID: R302973		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: MBLKW1-100917	Units: ug/Kg		Analysis Date: 09-Oct-2017 09:08					
Client ID:	Run ID: VOA8_302973	SeqNo: 4255067		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2389	0	2500	0	95.6	76 - 125			
Surr: 4-Bromofluorobenzene	2329	0	2500	0	93.1	83 - 120			
Surr: Dibromofluoromethane	2440	0	2500	0	97.6	80 - 119			
Surr: Toluene-d8	2430	0	2500	0	97.2	81 - 118			

LCS	Sample ID: VLCSW1-100917	Units: ug/Kg		Analysis Date: 09-Oct-2017 08:21					
Client ID:	Run ID: VOA8_302973	SeqNo: 4255066		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	47.91	5.0	50	0	95.8	75 - 124			
Surr: 1,2-Dichloroethane-d4	44.55	0	50	0	89.1	76 - 125			
Surr: 4-Bromofluorobenzene	48.74	0	50	0	97.5	83 - 120			
Surr: Dibromofluoromethane	49.83	0	50	0	99.7	80 - 119			
Surr: Toluene-d8	50.73	0	50	0	101	81 - 118			

MS	Sample ID: HS17091520-14MS	Units: ug/Kg		Analysis Date: 09-Oct-2017 14:19					
Client ID:	Run ID: VOA8_302973	SeqNo: 4255867		PrepDate:		DF: 1000			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	56900	6900	69000	0	82.5	70 - 130			
Surr: 1,2-Dichloroethane-d4	60950	0	69000	0	88.3	70 - 126			
Surr: 4-Bromofluorobenzene	65050	0	69000	0	94.3	72 - 120			
Surr: Dibromofluoromethane	63630	0	69000	0	92.2	70 - 130			
Surr: Toluene-d8	70350	0	69000	0	102	82 - 121			

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17100323

QC BATCH REPORT

Batch ID: R302973		Instrument: VOA8		Method: SW8260						
MSD	Sample ID: HS17091520-14MSD	Units: ug/Kg			Analysis Date: 09-Oct-2017 14:46					
Client ID:	Run ID: VOA8_302973	SeqNo: 4255868			PrepDate:		DF: 1000			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Benzene	64570	6900	69000	0	93.6	70 - 130	56900	12.6	30	
Surr: 1,2-Dichloroethane-d4	60090	0	69000	0	87.1	70 - 126	60950	1.43	30	
Surr: 4-Bromofluorobenzene	65260	0	69000	0	94.6	72 - 120	65050	0.321	30	
Surr: Dibromofluoromethane	63880	0	69000	0	92.6	70 - 130	63630	0.39	30	
Surr: Toluene-d8	70500	0	69000	0	102	82 - 121	70350	0.219	30	
The following samples were analyzed in this batch:		HS17100323-01		HS17100323-03		HS17100323-04				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17100323

QC BATCH REPORT

Batch ID: R303074		Instrument: VOA6		Method: SW8260						
MBLK	Sample ID: VBLKW-171009	Units: ug/L			Analysis Date: 09-Oct-2017 23:08					
Client ID:	Run ID: VOA6_303074	SeqNo: 4256840			PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	< 0.60	5.0								
Surr: 1,2-Dichloroethane-d4	42.63	0	50	0	85.3	70 - 123				
Surr: 4-Bromofluorobenzene	51.73	0	50	0	103	82 - 115				
Surr: Dibromofluoromethane	46.04	0	50	0	92.1	73 - 126				
Surr: Toluene-d8	45.38	0	50	0	90.8	81 - 119				

LCS	Sample ID: VLCSW-171009	Units: ug/L			Analysis Date: 09-Oct-2017 22:18					
Client ID:	Run ID: VOA6_303074	SeqNo: 4256839			PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	57.94	5.0	50	0	116	74 - 120				
Surr: 1,2-Dichloroethane-d4	41.77	0	50	0	83.5	70 - 130				
Surr: 4-Bromofluorobenzene	51.18	0	50	0	102	82 - 115				
Surr: Dibromofluoromethane	45.48	0	50	0	91.0	73 - 126				
Surr: Toluene-d8	44.85	0	50	0	89.7	81 - 119				

MS	Sample ID: HS17100061-09MS	Units: ug/L			Analysis Date: 10-Oct-2017 00:23					
Client ID:	Run ID: VOA6_303074	SeqNo: 4256842			PrepDate:			DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	5422	500	5000	0	108	70 - 127				
Surr: 1,2-Dichloroethane-d4	4244	0	5000	0	84.9	70 - 126				
Surr: 4-Bromofluorobenzene	5179	0	5000	0	104	81 - 113				
Surr: Dibromofluoromethane	4596	0	5000	0	91.9	77 - 123				
Surr: Toluene-d8	4518	0	5000	0	90.4	82 - 127				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17100323

QC BATCH REPORT

Batch ID: R303074		Instrument: VOA6		Method: SW8260						
MSD	Sample ID: HS17100061-09MSD	Units: ug/L			Analysis Date: 10-Oct-2017 00:48					
Client ID:	Run ID: VOA6_303074	SeqNo: 4256843		PrepDate:		DF: 100				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Benzene	5489	500	5000	0	110	70 - 127	5422	1.23	20	
Surr: 1,2-Dichloroethane-d4	4218	0	5000	0	84.4	70 - 126	4244	0.614	20	
Surr: 4-Bromofluorobenzene	5157	0	5000	0	103	81 - 113	5179	0.428	20	
Surr: Dibromofluoromethane	4574	0	5000	0	91.5	77 - 123	4596	0.498	20	
Surr: Toluene-d8	4543	0	5000	0	90.9	82 - 127	4518	0.564	20	
The following samples were analyzed in this batch:		HS17100323-05		HS17100323-06		HS17100323-07		HS17100323-09		

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17100323

QC BATCH REPORT

Batch ID: R303290		Instrument: VOA1		Method: SW8260						
MBLK	Sample ID: VBLKW-171012	Units: ug/L		Analysis Date: 12-Oct-2017 12:23						
Client ID:	Run ID: VOA1_303290	SeqNo: 4261076		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	< 0.60	5.0								
Surr: 1,2-Dichloroethane-d4	46.67	0	50	0	93.3	70 - 123				
Surr: 4-Bromofluorobenzene	52.57	0	50	0	105	82 - 115				
Surr: Dibromofluoromethane	47	0	50	0	94.0	73 - 126				
Surr: Toluene-d8	51.26	0	50	0	103	81 - 119				

LCS	Sample ID: VLCSW-171012	Units: ug/L		Analysis Date: 12-Oct-2017 11:30						
Client ID:	Run ID: VOA1_303290	SeqNo: 4261075		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	53.69	5.0	50	0	107	74 - 120				
Surr: 1,2-Dichloroethane-d4	48.93	0	50	0	97.9	70 - 130				
Surr: 4-Bromofluorobenzene	49.02	0	50	0	98.0	82 - 115				
Surr: Dibromofluoromethane	45.12	0	50	0	90.2	73 - 126				
Surr: Toluene-d8	47.29	0	50	0	94.6	81 - 119				

MS	Sample ID: HS17100423-01MS	Units: ug/L		Analysis Date: 12-Oct-2017 13:44						
Client ID:	Run ID: VOA1_303290	SeqNo: 4261079		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	43.8	5.0	50	0	87.6	70 - 127				
Surr: 1,2-Dichloroethane-d4	47.69	0	50	0	95.4	70 - 126				
Surr: 4-Bromofluorobenzene	58.67	0	50	0	117	81 - 113				S
Surr: Dibromofluoromethane	44.29	0	50	0	88.6	77 - 123				
Surr: Toluene-d8	54.73	0	50	0	109	82 - 127				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17100323

QC BATCH REPORT

Batch ID: R303290		Instrument: VOA1		Method: SW8260						
MSD	Sample ID: HS17100423-01MSD	Units: ug/L			Analysis Date: 12-Oct-2017 14:10					
Client ID:	Run ID: VOA1_303290	SeqNo: 4261080			PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	51.24	5.0	50	0	102	70 - 127	43.8	15.6	20	
Surr: 1,2-Dichloroethane-d4	49.87	0	50	0	99.7	70 - 126	47.69	4.47	20	
Surr: 4-Bromofluorobenzene	52.16	0	50	0	104	81 - 113	58.67	11.8	20	
Surr: Dibromofluoromethane	46.85	0	50	0	93.7	77 - 123	44.29	5.61	20	
Surr: Toluene-d8	47.99	0	50	0	96.0	82 - 127	54.73	13.1	20	
The following samples were analyzed in this batch:		HS17100323-02		HS17100323-08						

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17100323

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 13-Oct-17

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	17-027-0	27-Mar-2018
California	2919 2016-2018	31-Jul-2018
Illinois	004112	09-May-2018
Kentucky	123043	30-Apr-2018
Louisiana	03087 2017-2017	30-Jun-2018
North Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

ALS Group USA, Corp

Date: 13-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17100323

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS17100323-01	S-1 (API HC)	Login	10/6/2017 11:10:12 AM	CL	VOA120
HS17100323-02	S-3 (API Water)	Login	10/6/2017 11:10:12 AM	CL	VOA120
HS17100323-03	S-5 (T-40)	Login	10/6/2017 11:10:12 AM	CL	VOA120
HS17100323-04	S-6 (T-41)	Login	10/6/2017 11:10:12 AM	CL	VOA120
HS17100323-05	Field Blank	Login	10/6/2017 11:10:12 AM	CL	VOA120
HS17100323-06	EQ Blank Port 1	Login	10/6/2017 11:10:12 AM	CL	VOA120
HS17100323-07	EQ Blank Port 2	Login	10/6/2017 11:10:12 AM	CL	VOA120
HS17100323-08	Duplicate	Login	10/6/2017 11:10:12 AM	CL	VOA120
HS17100323-09	Trip Blank	Login	10/6/2017 11:10:12 AM	CL	VOA120

ALS Group USA, Corp

Date: 13-Oct-17

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS17100323

Date/Time Received: **05-Oct-2017 08:25**
Received by: **JRM**

Checklist completed by: Cesar A. Lira
eSignature

6-Oct-2017
Date

Reviewed by: Nicole Edwards
eSignature

9-Oct-2017
Date

Matrices: **Liquid, oils**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☒
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	

Temperature(s)/Thermometer(s):

2.8c/3.1c UC/C

IR11

Cooler(s)/Kit(s):

IR11

Date/Time sample(s) sent to storage:

10/5/2017 19:00

Water - VOA vials have zero headspace?

Yes ☒

No ☐

No VOA vials submitted ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

pH adjusted?

Yes ☐

No ☐

N/A ☒

pH adjusted by:

Login Notes: **Samples refrigerated prior to login.**

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

Page 1 of 1
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☐ Middletown, PA
+1 717 944 5541

☐ Salt Lake City, UT
+1 801 266
7700

☐ Spring City, PA
+1 610 948
4903

Customer Information		ALS Project Manager: Erica Padilla					Work Order #:		Parameter/Method Request for Analysis									
Purchase Order		Project Name	BWON Monthly Sampling (EOL)				A	VOLATILES (8260) Benzene										
Work Order		Project Number					B											
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC				C											
Send Report To	Tyler Turner Gabi Combs	Invoice Attn	Susie Aguilar				D											
Address	P.O. Box 159	Address	501 East Main				E											
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210				F											
Phone	(575) 748-3311	Phone	(575) 748-3311				G											
Fax	(575) 746-5451	Fax	(575) 746-5451				H											
e-Mail Address	turner.am@gmail.com Gabiela.Combs@hollyfrontier.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com				I											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
1	S-1 (API HC)	10/03/17	9:29 AM	Liquid	Neat	1	X											
2	S-3 (API Water)	10/03/17	9:51 AM	Liquid	HCl	1	X											
3	S-5 (T-40)	10/03/17	9:01 AM	Liquid	Neat	1	X											
4	S-6 (T-41)	10/03/17	9:05 AM	Liquid	Neat	1	X											
5	Field Blank	10/03/17	9:35 AM	Liquid	HCl	1	X											
6	EQ Blank Port 1	10/03/17	10:04 AM	Liquid	HCl	1	X											
7	EQ Blank Port 2	10/03/17	10:26 AM	Liquid	HCl	1	X											
8	Duplicate	10/03/17	xxx	Liquid	HCl	1	X											
9	Trip Blank	10/03/17	xxx	Liquid	HCl	2	X											
10	Temperature Blank	10/03/17		Liquid		1												
Sampler(s): Please Print & Sign <i>Brady Hubbard</i> <i>Brady Hubbard</i>		Shipment Method:		Required Turnaround Time:				Other _____				Results Due Date:						
				☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour														
Relinquished by: <i>Brady Hubbard</i> <i>Brady Hubbard</i>	Date: <i>10/3/17</i>	Time: <i>4:00pm</i>	Received by:				Notes:											
Relinquished by: <i>1</i>	Date: <i>10/5/17</i>	Time: <i>08:25</i>	Received by (Laboratory): <i>Jim</i>				Cooler Temp. <i>2-8</i>		QC Package: (Check Box Below)									
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):						Level II: Standard QC				TRRP-Checklist				
										Level III: Std QC + Raw Data				TRRP Level IV				
										Level IV: SW846 CLP-Like								
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																		
Other: _____																		

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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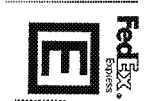
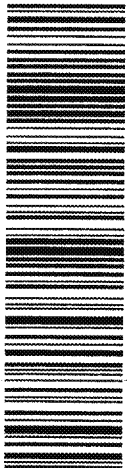
 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By:
	Date: 10-3-17	Time: 4:00 pm	Jim
	Name: Brady Hubbard		Date: 10/5/17
	Company: Navajo Refinery		

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ORIGIN: D ROW BRADY HUBBARD AQUA MICROBICS 501 E MAIN AQUA MICROBICS AQUA MICROBICS UNITED STATES US		(579) 637-2398	SHIP DATE: 03OCT17 SHIP TO: 301141M CND: 04773804E3011
TO ERICA PADILLA ALS 10450 STANCLIFF SUITE 210 HOUSTON TX 77099		REF: (381) 254-3347	BILL RECIPIENT
DZ		CEPT	
			
Dangerous Goods as per attached DSD-CAG		540C3/A699/727F	
TRK# 7093 0859 0464 0201	WED - 04 OCT 10:30A PRIORITY OVERNIGHT ADG 77099 IAH TX-US		
			
AB SGRA			



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

October 12, 2017

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS17100324**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 4 sample(s) on Oct 05, 2017 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumokey.Lawal
Nicole Edwards
Project Manager

ALS Group USA, Corp

Date: 12-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17100324

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17100324-01	S-1 (API HC)	Liquid		03-Oct-2017 09:29	05-Oct-2017 08:25	☐
HS17100324-02	S-3 (API Water)	Liquid		03-Oct-2017 09:51	05-Oct-2017 08:25	☐
HS17100324-03	S-5 (T-40)	Liquid		03-Oct-2017 09:01	05-Oct-2017 08:25	☐
HS17100324-04	S-6 (T-41)	Liquid		03-Oct-2017 09:05	05-Oct-2017 08:25	☐

ALS Group USA, Corp

Date: 12-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17100324

CASE NARRATIVE

Work Order Comments

- The analysis for Specific Gravity was subcontracted to ALS Environmental in Holland, MI. Final report attached.
-

ALS Group USA, Corp

Date: 12-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-1 (API HC)
Collection Date: 03-Oct-2017 09:29

ANALYTICAL REPORT

WorkOrder:HS17100324
Lab ID:HS17100324-01
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0			1	12-Oct-2017 09:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 12-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-3 (API Water)
Collection Date: 03-Oct-2017 09:51

ANALYTICAL REPORT

WorkOrder:HS17100324
Lab ID:HS17100324-02
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0			1	12-Oct-2017 09:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 12-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-5 (T-40)
Collection Date: 03-Oct-2017 09:01

ANALYTICAL REPORT

WorkOrder:HS17100324
Lab ID:HS17100324-03
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0			1	12-Oct-2017 09:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 12-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-6 (T-41)
Collection Date: 03-Oct-2017 09:05

ANALYTICAL REPORT

WorkOrder:HS17100324
Lab ID:HS17100324-04
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0			1	12-Oct-2017 09:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 12-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17100324

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R303247	Test Name : SUBCONTRACTED ANALYSIS			Matrix: Liquid		
HS17100324-01	S-1 (API HC)	03 Oct 2017 09:29			12 Oct 2017 09:05	1
HS17100324-02	S-3 (API Water)	03 Oct 2017 09:51			12 Oct 2017 09:05	1
HS17100324-03	S-5 (T-40)	03 Oct 2017 09:01			12 Oct 2017 09:05	1
HS17100324-04	S-6 (T-41)	03 Oct 2017 09:05			12 Oct 2017 09:05	1

ALS Group USA, Corp

Date: 12-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17100324

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Group USA, Corp

Date: 12-Oct-17

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	17-027-0	27-Mar-2018
California	2919 2016-2018	31-Jul-2018
Illinois	004112	09-May-2018
Kentucky	123043	30-Apr-2018
Louisiana	03087 2017-2017	30-Jun-2018
North Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

ALS Group USA, Corp

Date: 12-Oct-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17100324

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS17100324-01	S-1 (API HC)	Login	10/6/2017 11:10:28 AM	CL	Sub
HS17100324-02	S-3 (API Water)	Login	10/6/2017 11:10:28 AM	CL	Sub
HS17100324-03	S-5 (T-40)	Login	10/6/2017 11:10:28 AM	CL	Sub
HS17100324-04	S-6 (T-41)	Login	10/6/2017 11:10:28 AM	CL	Sub

ALS Group USA, Corp

Date: 12-Oct-17

Sample Receipt Checklist

Client Name: Navajo Refining
 Work Order: HS17100324

Date/Time Received: **05-Oct-2017 08:25**
 Received by: **JRM**

Checklist completed by: Cesar A. Lira
 eSignature

6-Oct-2017
 Date

Reviewed by: Nicole Edwards
 eSignature

9-Oct-2017
 Date

Matrices: **Liquid**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☒
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	2.8c/3.1c UC/C IR11		
Cooler(s)/Kit(s):	Styrofoam cooler		
Date/Time sample(s) sent to storage:	10/05/2017 1900		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:			

Login Notes: **Samples refrigerated prior to login.**

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

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+1 717 944 5541

☐ Salt Lake City, UT
+1 801 266 7700

☐ Spring City, PA
+1 610 948 4903

ALS Project Manager: Erica Padilla

Work Order #:

Customer Information			Project Information				Parameter/Method Request for Analysis												
Purchase Order			Project Name	BWON Monthly Sampling (EOL)			A	Specific Gravity											
Work Order			Project Number				B												
Company Name	Navajo Refining Company LLC		Bill To Company	Holly Frontier Navajo Refining LLC			C												
Send Report To	Tyler Turner Gabi Combs		Invoice Attn.	Susie Aguilar			D												
Address	P.O. Box 159		Address	501 East Main			E												
City/State/Zip	Artesia, NM 88211-0159		City/State/Zip	Artesia, New Mexico 88210			F												
Phone	(575) 748-3311		Phone	(575) 748-3311			G												
Fax	(575) 746-5451		Fax	(575) 746-5451			H												
e-Mail Address	tturner.am@gmail.com Gabiela.Combs@hollyfrontier.com		e-Mail Address	Suzanne.Aguilar@hollyfrontier.com			I												
J																			
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	S-1 (API HC)	10/03/17	9:29 AM	Liquid	Neat	1	X												
2	S-3 (API Water)	10/03/17	9:51 AM	Liquid	Neat	1	X												
3	S-5 (T-40)	10/03/17	9:01 AM	Liquid	Neat	1	X												
4	S-6 (T-41)	10/03/17	9:05 AM	Liquid	Neat	1	X												
5																			
6																			
7																			
8																			
9																			
10																			
Sampler(s): Please Print & Sign <i>Brady Hubbard</i> <i>Brady Hubbard</i>			Shipment Method:		Required Turnaround Time:				☐ Other				Results Due Date:						
					☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour														
Relinquished by: <i>Brady Hubbard</i> <i>Brady Hubbard</i>		Date: 10-3-17	Time: 4:00 pm	Received by:			Notes:												
Relinquished by:		Date: 10/3/17	Time: 08:25	Received by (Laboratory): <i>Jm</i>			Cooler Temp. 2-8												
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):			QC Package: (Check Box Below)												
							☐ Level II: Standard QC ☐ TRRP-Checklist ☐ Level III: Std QC + Raw Data ☐ TRRP Level IV ☐ Level IV: SW846 CLP-Like												
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035							Other:												

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

Styrene Cooler

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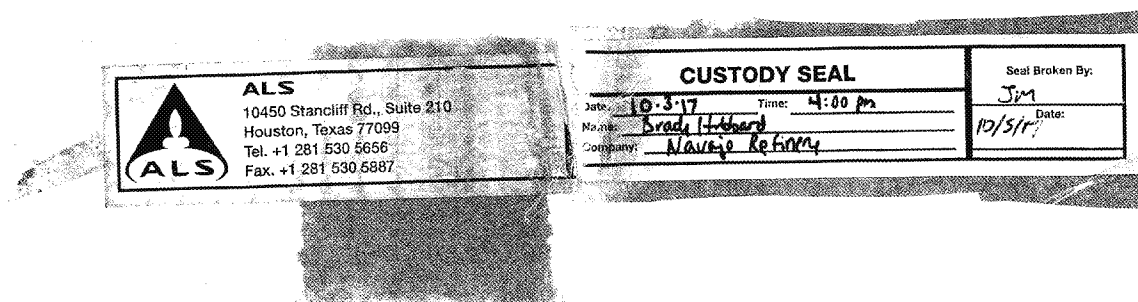
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ORIGIN D:ROMA BRADY HUBBARD SUITE 210 ARTESIA, NM 88210 UNITED STATES US		SHIP DATE: 03OCT17 ACTWGT: 35.00 LB MM CDC: 04/7355CAFE3011 BILL RECIPIENT
TO ERICA PADILLA ALS 10450 STANCLIFF SUITE 210 HOUSTON TX 77099 REF: (361) 254-3347 PO		
DEPT:		
		
		
Dangerous Goods as per attached DGD-CAO WED - 04 OCT 10:30A PRIORITY OVERNIGHT ADG 77099 TX-US IAH		
TRK# 7093 0859 0464 0207		
		
AB SCRA		





12-Oct-2017

Erica Howard
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS17100324**

Work Order: **1710534**

Dear Erica,

ALS Environmental received 4 samples on 07-Oct-2017 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chad Whelton', is written over a horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

Report of Laboratory Analysis

ADDRESS 3362 126th Ave. Holland, Michigan 49424 | PHONE (516) 399-6070 | FAX (516) 399-6185

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www.alsglobal.com

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Page 16 of 25

RIGHT SOLUTIONS | RIGHT PARTNER

HFNA-000001818

ALS Group, USA

Date: 12-Oct-17

Client: ALS Environmental**Project:** HS17100324**Work Order:** 1710534**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1710534-01	HS17100324-01	Liquid	S-1 (API HC)	10/3/2017 09:29	10/7/2017 09:30	☐
1710534-02	HS17100324-02	Liquid	S-3 (API Water)	10/3/2017 09:51	10/7/2017 09:30	☐
1710534-03	HS17100324-03	Liquid	S-5 (T-40)	10/3/2017 09:01	10/7/2017 09:30	☐
1710534-04	HS17100324-04	Liquid	S-6 (T-41)	10/3/2017 09:05	10/7/2017 09:30	☐

ALS Group, USA

Date: 12-Oct-17

Client: ALS Environmental
Project: HS17100324
WorkOrder: 1710534

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
none	

ALS Group, USA**Date:** 12-Oct-17

Client: ALS Environmental
Project: HS17100324
Sample ID: HS17100324-01
Collection Date: 10/3/2017 09:29 AM

Work Order: 1710534
Lab ID: 1710534-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	0.980			none	1	10/11/2017 04:38 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 12-Oct-17

Client: ALS Environmental
Project: HS17100324
Sample ID: HS17100324-02
Collection Date: 10/3/2017 09:51 AM

Work Order: 1710534
Lab ID: 1710534-02
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.00			none	1	10/11/2017 04:38 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 12-Oct-17

Client: ALS Environmental
Project: HS17100324
Sample ID: HS17100324-03
Collection Date: 10/3/2017 09:01 AM

Work Order: 1710534
Lab ID: 1710534-03
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.13			none	1	10/11/2017 04:38 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 12-Oct-17

Client: ALS Environmental
Project: HS17100324
Sample ID: HS17100324-04
Collection Date: 10/3/2017 09:05 AM

Work Order: 1710534
Lab ID: 1710534-04
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.13			none	1	10/11/2017 04:38 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 12-Oct-17

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1710534

Project: HS17100324

Batch ID: **R222011**Instrument ID **WETCHEM**Method: **D5057-90**

DUP	Sample ID: 1710534-02A DUP				Units: none		Analysis Date: 10/11/2017 04:38 PM			
Client ID: HS17100324-02			Run ID: WETCHEM_1710110		SeqNo: 4692983		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	1.006	0	0	0	0	0-0	1.003	0.279	20	

The following samples were analyzed in this batch:

1710534-01A	1710534-02A	1710534-03A
1710534-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

1710534



10450 Standliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

COC ID: 7733

SUBCONTRACT TO:

ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: Erica Howard
Address: 10450 Standliff Rd, Ste 210
Phone: +1 281 530 5656
Email: erica.howard@alsglobal.com
Alternate Contact: Jumoke M. Lawal
Email: jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Standliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS17100324
TSR: Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS17100324-01	S-1 (API HC)	Liquid	03 Oct 2017 09:29
	Specific Gravity Sub to ALS Holland			12 Oct 2017
2.	HS17100324-02	S-3 (API Water)	Liquid	03 Oct 2017 09:51
	Specific Gravity Sub to ALS Holland			12 Oct 2017
3.	HS17100324-03	S-5 (T-40)	Liquid	03 Oct 2017 09:01
	Specific Gravity Sub to ALS Holland			12 Oct 2017
4.	HS17100324-04	S-6 (T-41)	Liquid	03 Oct 2017 09:05
	Specific Gravity Sub to ALS Holland			12 Oct 2017

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By:

Date/Time:

Received By:

Date/Time:

Cooler ID(s):

Temperature(s):

RIGHT SOLUTIONS | RIGHT PARTNER

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Group, USA

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**Date/Time Received: **07-Oct-17 09:30**Work Order: **1710534**Received by: **DS**Checklist completed by *Diane Shana*
eSignature09-Oct-17
DateReviewed by: *Chad Whilton*
eSignature09-Oct-17
DateMatrices: LiquidCarrier name: FedEx

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒No ☐Not Present ☐

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

Chain of custody signed when relinquished and received?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Sample(s) received on ice?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

2.2/2.2 cSR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

10/9/2017 10:43:40 AM

Water - VOA vials have zero headspace?

Yes ☐No ☐No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐No ☐N/A ☒

pH adjusted?

Yes ☐No ☐N/A ☒

pH adjusted by:

-

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

November 10, 2017

Tyler Turner (Cons. Aqua Microbics)
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS17110177**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Tyler,

ALS Environmental received 9 sample(s) on Nov 03, 2017 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dayna.Fisher
Nicole Edwards
Project Manager

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17110177

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17110177-01	S-1 (API HC)	Liquid		02-Nov-2017 09:55	03-Nov-2017 09:10	☐
HS17110177-02	S-3 (API Water)	Liquid		02-Nov-2017 09:18	03-Nov-2017 09:10	☐
HS17110177-03	S-5 (T-40)	Liquid		02-Nov-2017 08:45	03-Nov-2017 09:10	☐
HS17110177-04	S-6 (T-41)	Liquid		02-Nov-2017 08:50	03-Nov-2017 09:10	☐
HS17110177-05	Field Blank	Liquid		02-Nov-2017 09:06	03-Nov-2017 09:10	☐
HS17110177-06	EQ Blank Port 1	Liquid		02-Nov-2017 09:41	03-Nov-2017 09:10	☐
HS17110177-07	EQ Blank Port 2	Liquid		02-Nov-2017 09:41	03-Nov-2017 09:10	☐
HS17110177-08	Duplicate	Liquid		02-Nov-2017 00:00	03-Nov-2017 09:10	☐
HS17110177-09	Trip Blank	Liquid		02-Nov-2017 00:00	03-Nov-2017 09:10	☐

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17110177

CASE NARRATIVE

GCMS Volatiles by Method SW8260**Batch ID: R305006,R305099**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R304921**Sample ID: S-5 (T-40) (HS17110177-03), S-6 (T-41) (HS17110177-04)**

- Lowest practical dilution for HS17110177-03, 04 due to sample matrix. Surrogates failure due to sample matrix.
-

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-1 (API HC)
 Collection Date: 02-Nov-2017 09:55

ANALYTICAL REPORT

WorkOrder:HS17110177
 Lab ID:HS17110177-01
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260					Analyst: WLR
Benzene	5.5		0.025	0.25	mg/Kg	50	07-Nov-2017 13:04
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>98.0</i>			<i>70-126</i>	<i>%REC</i>	<i>50</i>	<i>07-Nov-2017 13:04</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>73-120</i>	<i>%REC</i>	<i>50</i>	<i>07-Nov-2017 13:04</i>
<i>Surr: Dibromofluoromethane</i>	<i>99.0</i>			<i>70-130</i>	<i>%REC</i>	<i>50</i>	<i>07-Nov-2017 13:04</i>
<i>Surr: Toluene-d8</i>	<i>99.9</i>			<i>82-121</i>	<i>%REC</i>	<i>50</i>	<i>07-Nov-2017 13:04</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-3 (API Water)
 Collection Date: 02-Nov-2017 09:18

ANALYTICAL REPORT

WorkOrder:HS17110177
 Lab ID:HS17110177-02
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260				Analyst: PC	
Benzene	1.5		0.030	0.25	mg/L	50	08-Nov-2017 20:42
<i>Surr: 1,2-Dichloroethane-d4</i>	91.9			70-126	%REC	50	08-Nov-2017 20:42
<i>Surr: 4-Bromofluorobenzene</i>	99.4			82-124	%REC	50	08-Nov-2017 20:42
<i>Surr: Dibromofluoromethane</i>	93.7			77-123	%REC	50	08-Nov-2017 20:42
<i>Surr: Toluene-d8</i>	103			82-127	%REC	50	08-Nov-2017 20:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-5 (T-40)
 Collection Date: 02-Nov-2017 08:45

ANALYTICAL REPORT

WorkOrder:HS17110177
 Lab ID:HS17110177-03
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C	Method:SW8260						Analyst: WLR
Benzene	< 0.024		0.024	0.24	mg/Kg	50	07-Nov-2017 13:28
Surr: 1,2-Dichloroethane-d4	97.3			70-126	%REC	50	07-Nov-2017 13:28
Surr: 4-Bromofluorobenzene	103			73-120	%REC	50	07-Nov-2017 13:28
Surr: Dibromofluoromethane	63.2	S		70-130	%REC	50	07-Nov-2017 13:28
Surr: Toluene-d8	96.8			82-121	%REC	50	07-Nov-2017 13:28

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-6 (T-41)
 Collection Date: 02-Nov-2017 08:50

ANALYTICAL REPORT

WorkOrder:HS17110177
 Lab ID:HS17110177-04
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260		Analyst: WLR			
Benzene	< 0.025		0.025	0.25	mg/Kg	50	07-Nov-2017 13:51
Surr: 1,2-Dichloroethane-d4	98.5			70-126	%REC	50	07-Nov-2017 13:51
Surr: 4-Bromofluorobenzene	103			73-120	%REC	50	07-Nov-2017 13:51
Surr: Dibromofluoromethane	60.4	S		70-130	%REC	50	07-Nov-2017 13:51
Surr: Toluene-d8	95.3			82-121	%REC	50	07-Nov-2017 13:51

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Field Blank
 Collection Date: 02-Nov-2017 09:06

ANALYTICAL REPORT

WorkOrder:HS17110177
 Lab ID:HS17110177-05
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	08-Nov-2017 19:22
Surr: 1,2-Dichloroethane-d4	91.5			70-126	%REC	1	08-Nov-2017 19:22
Surr: 4-Bromofluorobenzene	94.5			82-124	%REC	1	08-Nov-2017 19:22
Surr: Dibromofluoromethane	95.4			77-123	%REC	1	08-Nov-2017 19:22
Surr: Toluene-d8	99.7			82-127	%REC	1	08-Nov-2017 19:22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 1
 Collection Date: 02-Nov-2017 09:41

ANALYTICAL REPORT

WorkOrder:HS17110177
 Lab ID:HS17110177-06
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	08-Nov-2017 19:48
Surr: 1,2-Dichloroethane-d4	89.9			70-126	%REC	1	08-Nov-2017 19:48
Surr: 4-Bromofluorobenzene	99.3			82-124	%REC	1	08-Nov-2017 19:48
Surr: Dibromofluoromethane	93.5			77-123	%REC	1	08-Nov-2017 19:48
Surr: Toluene-d8	102			82-127	%REC	1	08-Nov-2017 19:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 2
 Collection Date: 02-Nov-2017 09:41

ANALYTICAL REPORT

WorkOrder:HS17110177
 Lab ID:HS17110177-07
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260				Analyst: PC	
Benzene	0.00061	J	0.00060	0.0050	mg/L	1	08-Nov-2017 20:15
<i>Surr: 1,2-Dichloroethane-d4</i>	93.5			70-126	%REC	1	08-Nov-2017 20:15
<i>Surr: 4-Bromofluorobenzene</i>	99.2			82-124	%REC	1	08-Nov-2017 20:15
<i>Surr: Dibromofluoromethane</i>	94.2			77-123	%REC	1	08-Nov-2017 20:15
<i>Surr: Toluene-d8</i>	102			82-127	%REC	1	08-Nov-2017 20:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Duplicate
 Collection Date: 02-Nov-2017 00:00

ANALYTICAL REPORT

WorkOrder:HS17110177
 Lab ID:HS17110177-08
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	1.4		0.030	0.25	mg/L	50	08-Nov-2017 21:09
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>91.4</i>			<i>70-126</i>	<i>%REC</i>	50	<i>08-Nov-2017 21:09</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>82-124</i>	<i>%REC</i>	50	<i>08-Nov-2017 21:09</i>
<i>Surr: Dibromofluoromethane</i>	<i>93.1</i>			<i>77-123</i>	<i>%REC</i>	50	<i>08-Nov-2017 21:09</i>
<i>Surr: Toluene-d8</i>	<i>105</i>			<i>82-127</i>	<i>%REC</i>	50	<i>08-Nov-2017 21:09</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Trip Blank
 Collection Date: 02-Nov-2017 00:00

ANALYTICAL REPORT

WorkOrder:HS17110177
 Lab ID:HS17110177-09
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	07-Nov-2017 20:11
Surr: 1,2-Dichloroethane-d4	98.1			70-126	%REC	1	07-Nov-2017 20:11
Surr: 4-Bromofluorobenzene	103			82-124	%REC	1	07-Nov-2017 20:11
Surr: Dibromofluoromethane	93.7			77-123	%REC	1	07-Nov-2017 20:11
Surr: Toluene-d8	107			82-127	%REC	1	07-Nov-2017 20:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17110177

Batch ID: 2066 **Method:** VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS17110177-01	1	4.986 (g)	5 (mL)	1	Bulk (5030B)
HS17110177-03	1	5.129 (g)	5 (mL)	0.97	Bulk (5030B)
HS17110177-04	1	5.035 (g)	5 (mL)	0.99	Bulk (5030B)

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17110177

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R304921	Test Name : VOLATILES BY SW8260C			Matrix: Liquid		
HS17110177-01	S-1 (API HC)	02 Nov 2017 09:55			07 Nov 2017 13:04	50
HS17110177-03	S-5 (T-40)	02 Nov 2017 08:45			07 Nov 2017 13:28	50
HS17110177-04	S-6 (T-41)	02 Nov 2017 08:50			07 Nov 2017 13:51	50
Batch ID R305006	Test Name : VOLATILES - SW8260C			Matrix: Liquid		
HS17110177-09	Trip Blank	02 Nov 2017 00:00			07 Nov 2017 20:11	1
Batch ID R305099	Test Name : VOLATILES - SW8260C			Matrix: Liquid		
HS17110177-02	S-3 (API Water)	02 Nov 2017 09:18			08 Nov 2017 20:42	50
HS17110177-05	Field Blank	02 Nov 2017 09:06			08 Nov 2017 19:22	1
HS17110177-06	EQ Blank Port 1	02 Nov 2017 09:41			08 Nov 2017 19:48	1
HS17110177-07	EQ Blank Port 2	02 Nov 2017 09:41			08 Nov 2017 20:15	1
HS17110177-08	Duplicate	02 Nov 2017 00:00			08 Nov 2017 21:09	50

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17110177

QC BATCH REPORT

Batch ID: R304921		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: MBLKW1-110717	Units: ug/Kg		Analysis Date: 07-Nov-2017 08:36					
Client ID:	Run ID: VOA8_304921	SeqNo: 4297273		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2464	0	2500	0	98.6	76 - 125			
Surr: 4-Bromofluorobenzene	2492	0	2500	0	99.7	83 - 120			
Surr: Dibromofluoromethane	2503	0	2500	0	100	80 - 119			
Surr: Toluene-d8	2439	0	2500	0	97.6	81 - 118			

LCS	Sample ID: VLCSW1-110717	Units: ug/Kg		Analysis Date: 07-Nov-2017 07:50					
Client ID:	Run ID: VOA8_304921	SeqNo: 4297272		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	52.97	5.0	50	0	106	75 - 124			
Surr: 1,2-Dichloroethane-d4	51.86	0	50	0	104	76 - 125			
Surr: 4-Bromofluorobenzene	50.99	0	50	0	102	83 - 120			
Surr: Dibromofluoromethane	52.15	0	50	0	104	80 - 119			
Surr: Toluene-d8	49.9	0	50	0	99.8	81 - 118			

MS	Sample ID: HS17110124-04MS	Units: ug/Kg		Analysis Date: 07-Nov-2017 10:59					
Client ID:	Run ID: VOA8_304921	SeqNo: 4297878		PrepDate:		DF: 1000			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	50540	4400	43500	5900	103	70 - 130			
Surr: 1,2-Dichloroethane-d4	40660	0	43500	0	93.5	70 - 126			
Surr: 4-Bromofluorobenzene	44830	0	43500	0	103	72 - 120			
Surr: Dibromofluoromethane	42190	0	43500	0	97.0	70 - 130			
Surr: Toluene-d8	43790	0	43500	0	101	82 - 121			

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17110177

QC BATCH REPORT

Batch ID: R304921		Instrument: VOA8		Method: SW8260						
MSD	Sample ID: HS17110124-04MSD	Units: ug/Kg			Analysis Date: 07-Nov-2017 11:23					
Client ID:	Run ID: VOA8_304921	SeqNo: 4297879			PrepDate:		DF: 1000			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Benzene	47800	4400	43500	5900	96.3	70 - 130	50540	5.57	30	
Surr: 1,2-Dichloroethane-d4	40950	0	43500	0	94.1	70 - 126	40660	0.701	30	
Surr: 4-Bromofluorobenzene	45730	0	43500	0	105	72 - 120	44830	1.98	30	
Surr: Dibromofluoromethane	42240	0	43500	0	97.1	70 - 130	42190	0.136	30	
Surr: Toluene-d8	44120	0	43500	0	101	82 - 121	43790	0.759	30	
The following samples were analyzed in this batch:		HS17110177-01		HS17110177-03		HS17110177-04				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17110177

QC BATCH REPORT

Batch ID: R305006		Instrument: VOA1		Method: SW8260					
MBLK	Sample ID: VBLKW-171107	Units: ug/L		Analysis Date: 07-Nov-2017 13:00					
Client ID:	Run ID: VOA1_305006	SeqNo: 4299137		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	47.82	0	50	0	95.6	70 - 123			
Surr: 4-Bromofluorobenzene	49.87	0	50	0	99.7	83 - 122			
Surr: Dibromofluoromethane	47.54	0	50	0	95.1	73 - 126			
Surr: Toluene-d8	52.66	0	50	0	105	81 - 119			

LCS	Sample ID: VLCSW-171107	Units: ug/L		Analysis Date: 07-Nov-2017 12:07					
Client ID:	Run ID: VOA1_305006	SeqNo: 4299136		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	47.56	5.0	50	0	95.1	74 - 120			
Surr: 1,2-Dichloroethane-d4	50.76	0	50	0	102	70 - 130			
Surr: 4-Bromofluorobenzene	52.41	0	50	0	105	83 - 122			
Surr: Dibromofluoromethane	47.62	0	50	0	95.2	73 - 126			
Surr: Toluene-d8	49.06	0	50	0	98.1	81 - 119			

MS	Sample ID: HS17101542-06MS	Units: ug/L		Analysis Date: 07-Nov-2017 15:16					
Client ID:	Run ID: VOA1_305006	SeqNo: 4299139		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	63.52	5.0	50	9.765	108	70 - 127			
Surr: 1,2-Dichloroethane-d4	50.69	0	50	0	101	70 - 126			
Surr: 4-Bromofluorobenzene	50.06	0	50	0	100	82 - 124			
Surr: Dibromofluoromethane	48.68	0	50	0	97.4	77 - 123			
Surr: Toluene-d8	47.26	0	50	0	94.5	82 - 127			

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17110177

QC BATCH REPORT

Batch ID: R305006		Instrument: VOA1		Method: SW8260						
MSD	Sample ID: HS17101542-06MSD	Units: ug/L			Analysis Date: 07-Nov-2017 15:43					
Client ID:	Run ID: VOA1_305006	SeqNo: 4299140			PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	52.86	5.0	50	9.765	86.2	70 - 127	63.52	18.3	20	
Surr: 1,2-Dichloroethane-d4	46.2	0	50	0	92.4	70 - 126	50.69	9.26	20	
Surr: 4-Bromofluorobenzene	51.45	0	50	0	103	82 - 124	50.06	2.75	20	
Surr: Dibromofluoromethane	47.97	0	50	0	95.9	77 - 123	48.68	1.48	20	
Surr: Toluene-d8	51.05	0	50	0	102	82 - 127	47.26	7.71	20	
The following samples were analyzed in this batch:		HS17110177-09								

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17110177

QC BATCH REPORT

Batch ID: R305099		Instrument: VOA1		Method: SW8260					
MBLK	Sample ID: VBLKW-171108	Units: ug/L		Analysis Date: 08-Nov-2017 14:55					
Client ID:	Run ID: VOA1_305099	SeqNo: 4301656		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	46.76	0	50	0	93.5	70 - 123			
Surr: 4-Bromofluorobenzene	47.67	0	50	0	95.3	83 - 122			
Surr: Dibromofluoromethane	47.18	0	50	0	94.4	73 - 126			
Surr: Toluene-d8	51.96	0	50	0	104	81 - 119			

LCS	Sample ID: VLCSW-171108	Units: ug/L		Analysis Date: 08-Nov-2017 14:02					
Client ID:	Run ID: VOA1_305099	SeqNo: 4301655		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	48.33	5.0	50	0	96.7	74 - 120			
Surr: 1,2-Dichloroethane-d4	48.17	0	50	0	96.3	70 - 130			
Surr: 4-Bromofluorobenzene	50.05	0	50	0	100	83 - 122			
Surr: Dibromofluoromethane	49.03	0	50	0	98.1	73 - 126			
Surr: Toluene-d8	48.92	0	50	0	97.8	81 - 119			

MS	Sample ID: HS17110166-15MS	Units: ug/L		Analysis Date: 08-Nov-2017 17:08					
Client ID:	Run ID: VOA1_305099	SeqNo: 4301661		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	81.11	5.0	50	36.05	90.1	70 - 127			
Surr: 1,2-Dichloroethane-d4	47.26	0	50	0	94.5	70 - 126			
Surr: 4-Bromofluorobenzene	52.09	0	50	0	104	82 - 124			
Surr: Dibromofluoromethane	47.68	0	50	0	95.4	77 - 123			
Surr: Toluene-d8	49.31	0	50	0	98.6	82 - 127			

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17110177

QC BATCH REPORT

Batch ID: R305099		Instrument: VOA1		Method: SW8260							
MSD		Sample ID: HS17110166-15MSD		Units: ug/L		Analysis Date: 08-Nov-2017 17:35					
Client ID:		Run ID: VOA1_305099		SeqNo: 4301662		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	79.32	5.0	50	36.05	86.5	70 - 127	81.11	2.24	20		
Surr: 1,2-Dichloroethane-d4	45.62	0	50	0	91.2	70 - 126	47.26	3.52	20		
Surr: 4-Bromofluorobenzene	51.46	0	50	0	103	82 - 124	52.09	1.2	20		
Surr: Dibromofluoromethane	47.63	0	50	0	95.3	77 - 123	47.68	0.103	20		
Surr: Toluene-d8	49.28	0	50	0	98.6	82 - 127	49.31	0.0597	20		
The following samples were analyzed in this batch:		HS17110177-02 HS17110177-08		HS17110177-05		HS17110177-06		HS17110177-07			

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17110177

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 10-Nov-17

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	17-027-0	27-Mar-2018
California	2919 2016-2018	31-Jul-2018
Illinois	004112	09-May-2018
Kentucky	123043	30-Apr-2018
Louisiana	03087 2017-2017	30-Jun-2018
North Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

ALS Group USA, Corp

Date: 10-Nov-17

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS17110177

Date/Time Received: **03-Nov-2017 09:10**
Received by: **JRM**

Checklist completed by: Raegen Giga
eSignature

3-Nov-2017
Date

Reviewed by: Nicole Edwards
eSignature

10-Nov-2017
Date

Matrices: **Liquid**

Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☒
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	

Temperature(s)/Thermometer(s):

1.8c/2.1c uc/c

IR 11

Cooler(s)/Kit(s):

BOX

Date/Time sample(s) sent to storage:

11/03/2017 15:39

Water - VOA vials have zero headspace?

Yes ☒

No ☐

No VOA vials submitted

☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

pH adjusted?

Yes ☐

No ☐

N/A ☒

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

Page 1 of 1
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☐ Salt Lake City, UT
+1 801 266
7700

☐ Spring City, PA
+1 610 948
4903

ALS Project Manager: Erica Padilla

Work Order #:

Customer Information			Project Information				Parameter/Method Request for Analysis													
Purchase Order			Project Name	BWON Monthly Sampling (EOL)			A	VOLATILES (8260) Benzene												
Work Order			Project Number				B													
Company Name	Navajo Refining Company LLC		Bill To Company	Holly Frontier Navajo Refining LLC			C	HS17110177 Navajo Refining Company BWON Monthly Sampling (EOL) 												
Send Report To	Tyler Turner Gabi Combs		Invoice Attn.	Susie Aguilar			D													
Address	P.O. Box 159		Address	501 East Main			E													
City/State/Zip	Artesia, NM 88211-0159		City/State/Zip	Artesia, New Mexico 88210			F													
Phone	(575) 748-3311		Phone	(575) 748-3311			G													
Fax	(575) 746-5451		Fax	(575) 746-5451			H													
e-Mail Address	turner.am@gmail.com Gabiela.Combs@hollyfrontier.com		e-Mail Address	Suzanne.Aguilar@hollyfrontier.com			I													
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold			
1	S-1 (API HC)	11/02/17	9:55 AM	Liquid	8	1	X													
2	S-3 (API Water)	11/02/17	9:18 AM	Liquid	8,1	1	X													
3	S-5 (T-40)	11/02/17	8:45 AM	Liquid	8	1	X													
4	S-6 (T-41)	11/02/17	8:50 AM	Liquid	8	1	X													
5	Field Blank	11/02/17	9:06 AM	Liquid	8,1	1	X													
6	EQ Blank Port 1	11/02/17	9:41 AM	Liquid	8,1	1	X													
7	EQ Blank Port 2	11/02/17	9:41 AM	Liquid	8,1	1	X													
8	Duplicate	11/02/17	XXX	Liquid	8,1	1	X													
9	Trip Blank	11/02/17	XXX	Liquid	8,1	2	X													
10	Temperature Blank	11/02/17		Liquid		1														
Sampler(s): Please Print & Sign <i>Brady Hubbard</i> <i>Brady Hubbard</i>			Shipment Method: <i>FedEx</i>		Required Turnaround Time: ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other _____				Results Due Date:											
Relinquished by: <i>Brady Hubbard</i> <i>Brady Hubbard</i>		Date: <i>11-2-17</i>	Time: <i>4:00</i>	Received by:			Notes:													
Relinquished by:		Date:	Time:	Received by (Laboratory): <i>Jim</i> <i>11-3-17</i> <i>ORIO</i>			Cooler Temp. <i>1.8</i>		QC Package: (Check Box Below)											
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory): <i>Boo man</i>					Level II: Standard QC				TRRP-Checklist							
									Level III: Std QC + Raw Data				TRRP Level IV							
									Level IV: SW846 CLP-Like											
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035							Other: _____													

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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ORIGIN DROMA (319) 637-2398 8200 HENRY ACQUA MICROBICS 507 E MAIN COLUMBIA MICROBICS ARLENE, NM 88218 UNITED STATES US		SHIP DATE: 07NOV17 DEPARTS: 5:00 PM CD: 04773897CAFE3708 BILL RECIPIENT
TO NICOLE EDWARDS		
ALS		
10450 STANCLIFF		
SUITE 210		
HOUSTON TX 77099		
REF		
DEPT		
PO		
NO		
REF		
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AB SGRA		
7093 0859 0497		
TRK#		
10201		

BSP

 ALS Environmental 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By:  Date: 11-3-17
	Date: 11-2-17	Time: 4:00	
	Name: Brady Hubbard		
	Company: Aqua Microbics		



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

November 10, 2017

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS17110184**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 4 sample(s) on Nov 03, 2017 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dayna.Fisher
Nicole Edwards
Project Manager

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17110184

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17110184-01	S-1 (API HC)	Liquid		02-Nov-2017 09:55	03-Nov-2017 09:10	☐
HS17110184-02	S-3 (API Water)	Liquid		02-Nov-2017 09:18	03-Nov-2017 09:10	☐
HS17110184-03	S-5 (T-40)	Liquid		02-Nov-2017 08:45	03-Nov-2017 09:10	☐
HS17110184-04	S-6 (T-41)	Liquid		02-Nov-2017 08:50	03-Nov-2017 09:10	☐

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17110184

CASE NARRATIVE

Work Order Comments

- The analysis for Specific Gravity was subcontracted to ALS Environmental in Holland, MI. Final report attached.
-

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-1 (API HC)
Collection Date: 02-Nov-2017 09:55

ANALYTICAL REPORT

WorkOrder:HS17110184
Lab ID:HS17110184-01
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0			1	10-Nov-2017 13:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-3 (API Water)
Collection Date: 02-Nov-2017 09:18

ANALYTICAL REPORT

WorkOrder:HS17110184
Lab ID:HS17110184-02
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0			1	10-Nov-2017 13:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-5 (T-40)
Collection Date: 02-Nov-2017 08:45

ANALYTICAL REPORT

WorkOrder:HS17110184
Lab ID:HS17110184-03
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0			1	10-Nov-2017 13:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-6 (T-41)
Collection Date: 02-Nov-2017 08:50

ANALYTICAL REPORT

WorkOrder:HS17110184
Lab ID:HS17110184-04
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0			1	10-Nov-2017 13:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17110184

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R305229	Test Name : SUBCONTRACTED ANALYSIS			Matrix: Liquid		
HS17110184-01	S-1 (API HC)	02 Nov 2017 09:55			10 Nov 2017 13:56	1
HS17110184-02	S-3 (API Water)	02 Nov 2017 09:18			10 Nov 2017 13:56	1
HS17110184-03	S-5 (T-40)	02 Nov 2017 08:45			10 Nov 2017 13:56	1
HS17110184-04	S-6 (T-41)	02 Nov 2017 08:50			10 Nov 2017 13:56	1

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17110184

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Group USA, Corp

Date: 10-Nov-17

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	17-027-0	27-Mar-2018
California	2919 2016-2018	31-Jul-2018
Illinois	004112	09-May-2018
Kentucky	123043	30-Apr-2018
Louisiana	03087 2017-2017	30-Jun-2018
North Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

ALS Group USA, Corp

Date: 10-Nov-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17110184

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS17110184-01	S-1 (API HC)	Login	11/3/2017 3:48:05 PM	RPG	Sub
HS17110184-02	S-3 (API Water)	Login	11/3/2017 3:48:05 PM	RPG	Sub
HS17110184-03	S-5 (T-40)	Login	11/3/2017 3:48:05 PM	RPG	Sub
HS17110184-04	S-6 (T-41)	Login	11/3/2017 3:48:05 PM	RPG	Sub

ALS Group USA, Corp

Date: 10-Nov-17

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS17110184

Date/Time Received: **03-Nov-2017 09:10**
Received by: **JRM**

Checklist completed by: Raegen Giga 3-Nov-2017
eSignature Date

Reviewed by: Nicole Edwards 10-Nov-2017
eSignature Date

Matrices: **Liquid**Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☒
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	

Temperature(s)/Thermometer(s):	1.8c/2.1c uc/c	IR 11
Cooler(s)/Kit(s):	Box	
Date/Time sample(s) sent to storage:	11/03/2017 16:00	
Water - VOA vials have zero headspace?	Yes ☒	No ☐ No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐ N/A ☒
pH adjusted?	Yes ☐	No ☐ N/A ☒
pH adjusted by:		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

Page 1 of 1
☐ Cincinnati, OH
+1 513 733 5336

☐ Everett, WA
+1 425 356 2600

☐ Holland, MI
+1 616 399 6070

☐ Houston, TX
+1 281 530 5656

☐ Middletown, PA
+1 717 944 5541

☐ Salt Lake City, UT
+1 801 266 7700

☐ Spring City, PA
+1 610 948 4903

ALS Project Manager: Erica Padilla		Work Order #:	
Customer Information		Project Information	
Purchase Order		Project Name	BWON Monthly Sampling (EOL)
Work Order		Project Number	
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC
Send Report To	Tyler Turner Gabi Combs	Invoice Attn.	Susie Aguilar
Address	P.O. Box 159	Address	501 East Main
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210
Phone	(575) 748-3311	Phone	(575) 748-3311
Fax	(575) 746-5451	Fax	(575) 746-5451
e-Mail Address	turner.am@gmail.com Gabiela.Combs@hollyfrontier.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com

Parameter/Method Request for Analysis						
HS17110184 Navajo Refining Company BWON Monthly Sampling (EOL)						

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-1 (API HC)	11/02/17	9:55 AM	Liquid	8	1	X										
2	S-3 (API Water)	11/02/17	9:18 AM	Liquid	8	1	X										
3	S-5 (T-40)	11/02/17	8:45 AM	Liquid	8	1	X										
4	S-6 (T-41)	11/02/17	8:50 AM	Liquid	8	1	X										
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign		Shipment Method: <u>FedEx</u>		Required Turnaround Time:		Results Due Date:	
				☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other _____			

Relinquished by: <u>Brad Hubbard</u>	Date: <u>11.2.17</u>	Time: <u>4:00</u>	Received by:	Notes:
Relinquished by: <u>Brad Hubbard</u>	Date:	Time:	Received by (Laboratory):	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

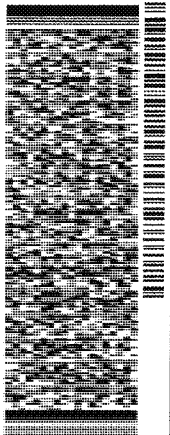
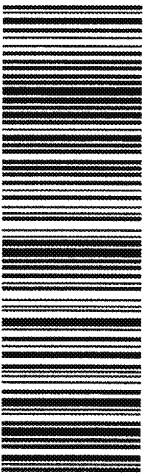
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035		Cooler Temp. <u>1.8</u>	QC Package: (Check Box Below)
			☐ Level II: Standard QC ☐ Level III: Std QC + Raw Data ☐ Level IV: SW846 CLP-Like Other: _____

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group. CFC+0.7

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After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

ORIGIN: DOWNA BRADY HUBBARD 501 E MAIN SUITE 210 C/O AQUA MICROBICS ARTESIA, NM 88210 UNITED STATES US		(575) 837-2298	SHIP DATE: 02NOV17 ACTWTG: 35.00 LB MM CAD: 04/7359CAFE3708
TO: NICOLE EDWARDS ALS 10450 STANCLIFF SUITE 210 HOUSTON TX 77099		REF: (361) 254-3347 INV: PO.	BILL RECIPIENT
DEPT:		546C3F87763C1	
			
			
417191810204100			
Dangerous Goods as per attached DSD CAO			
TRK# 02011	7093 0859 0497	FRI - 03 NOV 10:30A	
AB SGRA		PRIORITY OVERNIGHT	
TX-US		ADG	
IAH		77099	
			

BOX

 ALS Environmental 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By:  Date: 11-3-17
	Date: 11-2-17	Time: 4:00	
	Name: Brady Hubbard		
	Company: Aqua Metrics		



10-Nov-2017

Nicole Edwards
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS17110184**

Work Order: **1711345**

Dear Nicole,

ALS Environmental received 4 samples on 04-Nov-2017 09:45 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

Report of Laboratory Analysis

ADDRESS 3362 126th Ave. Holland, Michigan 49424 | PHONE (516) 399-6070 | FAX (516) 399-6185

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HFNA-000001869

ALS Group, USA

Date: 10-Nov-17

Client: ALS Environmental**Project:** HS17110184**Work Order:** 1711345**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1711345-01	HS17110184-01	Liquid	S-1 (API HC)	11/2/2017 09:55	11/4/2017 09:45	☐
1711345-02	HS17110184-02	Liquid	S-2 (API Water)	11/2/2017 09:18	11/4/2017 09:45	☐
1711345-03	HS17110184-03	Liquid	S-5 (T-40)	11/2/2017 08:45	11/4/2017 09:45	☐
1711345-04	HS17110184-04	Liquid	S-6 (T-41)	11/2/2017 08:50	11/4/2017 09:45	☐

ALS Group, USA

Date: 10-Nov-17

Client: ALS Environmental
Project: HS17110184
WorkOrder: 1711345

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
none	

ALS Group, USA**Date:** 10-Nov-17

Client: ALS Environmental
Project: HS17110184
Sample ID: HS17110184-01
Collection Date: 11/2/2017 09:55 AM

Work Order: 1711345
Lab ID: 1711345-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.00			none	1	11/9/2017 04:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 10-Nov-17

Client: ALS Environmental
Project: HS17110184
Sample ID: HS17110184-02
Collection Date: 11/2/2017 09:18 AM

Work Order: 1711345
Lab ID: 1711345-02
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.01			none	1	11/9/2017 04:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 10-Nov-17

Client: ALS Environmental
Project: HS17110184
Sample ID: HS17110184-03
Collection Date: 11/2/2017 08:45 AM

Work Order: 1711345
Lab ID: 1711345-03
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.13			none	1	11/9/2017 04:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 10-Nov-17

Client: ALS Environmental
Project: HS17110184
Sample ID: HS17110184-04
Collection Date: 11/2/2017 08:50 AM

Work Order: 1711345
Lab ID: 1711345-04
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.13			none	1	11/9/2017 04:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 10-Nov-17

Client: ALS Environmental

Work Order: 1711345

Project: HS17110184

QC BATCH REPORT

Batch ID: R224230

Instrument ID WETCHEM

Method: D5057-90

DUP	Sample ID: 1711345-02A DUP				Units: none		Analysis Date: 11/9/2017 04:50 PM			
Client ID: HS17110184-02			Run ID: WETCHEM_171109M		SeqNo: 4751313		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	1.007	0	0	0	0	0-0	1.006	0.139	20	

The following samples were analyzed in this batch:

1711345-01A	1711345-02A	1711345-03A
1711345-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1



1711345

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

COC ID: 7991

SUBCONTRACT TO:

ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: Nicole Edwards
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: Nicole.Edwards@alsglobal.com
Alternate Contact: Jumoke M. Lawal
Email: jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS17110184
TSR: Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS17110184-01	S-1 (API HC)	Liquid	02 Nov 2017 09:55
	Specific Gravity Sub to ALS Holland			10 Nov 2017
2.	HS17110184-02	S-3 (API Water)	Liquid	02 Nov 2017 09:18
	Specific Gravity Sub to ALS Holland			10 Nov 2017
3.	HS17110184-03	S-5 (T-40)	Liquid	02 Nov 2017 08:45
	Specific Gravity Sub to ALS Holland			10 Nov 2017
4.	HS17110184-04	S-6 (T-41)	Liquid	02 Nov 2017 08:50
	Specific Gravity Sub to ALS Holland			10 Nov 2017

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By:

Date/Time:

Received By:

Date/Time:

Cooler ID(s):

Temperature(s):

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3 Nov 2017

Date: 3 Nov 2017

ALS Group, USA

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**Date/Time Received: **04-Nov-17 09:45**Work Order: **1711345**Received by: **NCF**Checklist completed by Nicole Fredericks
eSignature06-Nov-17
DateReviewed by: Chad Whilton
eSignature06-Nov-17
DateMatrices: **Liquid**Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒No ☐Not Present ☐

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

Chain of custody signed when relinquished and received?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Sample(s) received on ice?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

3.2/3.2SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

11/6/2017 9:17:27 AM

Water - VOA vials have zero headspace?

Yes ☒No ☐No VOA vials submitted ☐

Water - pH acceptable upon receipt?

Yes ☒No ☐N/A ☐

pH adjusted?

Yes ☐No ☒N/A ☐

pH adjusted by:

-

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

December 14, 2017

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS17120448**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 4 sample(s) on Dec 06, 2017 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dayna.Fisher
Nicole Edwards
Project Manager

ALS Group USA, Corp

Date: 14-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17120448

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17120448-01	S-1 (API HC)	Liquid		05-Dec-2017 09:48	06-Dec-2017 09:50	☐
HS17120448-02	S-3 (API Water)	Liquid		05-Dec-2017 09:36	06-Dec-2017 09:50	☐
HS17120448-03	S-5 (T-40)	Liquid		05-Dec-2017 09:00	06-Dec-2017 09:50	☐
HS17120448-04	S-6 (T-41)	Liquid		05-Dec-2017 09:05	06-Dec-2017 09:50	☐

ALS Group USA, Corp

Date: 14-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17120448

CASE NARRATIVE

Work Order Comments

- The analysis for Specific Gravity was subcontracted to ALS Environmental in Holland, MI. Final Report attached.
-

ALS Group USA, Corp

Date: 14-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-1 (API HC)
Collection Date: 05-Dec-2017 09:48

ANALYTICAL REPORT

WorkOrder:HS17120448
Lab ID:HS17120448-01
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0		NA	1	14-Dec-2017 09:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 14-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-3 (API Water)
Collection Date: 05-Dec-2017 09:36

ANALYTICAL REPORT

WorkOrder:HS17120448
Lab ID:HS17120448-02
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0		NA	1	14-Dec-2017 09:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 14-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-5 (T-40)
Collection Date: 05-Dec-2017 09:00

ANALYTICAL REPORT

WorkOrder:HS17120448
Lab ID:HS17120448-03
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0		NA	1	14-Dec-2017 09:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 14-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-6 (T-41)
Collection Date: 05-Dec-2017 09:05

ANALYTICAL REPORT

WorkOrder:HS17120448
Lab ID:HS17120448-04
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS		Method:NA					Analyst: SUBHO
Miscellaneous Analysis	See Attached		0		NA	1	14-Dec-2017 09:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 14-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17120448

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R307189	Test Name : SUBCONTRACTED ANALYSIS			Matrix: Liquid		
HS17120448-01	S-1 (API HC)	05 Dec 2017 09:48			14 Dec 2017 09:03	1
HS17120448-02	S-3 (API Water)	05 Dec 2017 09:36			14 Dec 2017 09:03	1
HS17120448-03	S-5 (T-40)	05 Dec 2017 09:00			14 Dec 2017 09:03	1
HS17120448-04	S-6 (T-41)	05 Dec 2017 09:05			14 Dec 2017 09:03	1

ALS Group USA, Corp

Date: 14-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17120448

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Group USA, Corp

Date: 14-Dec-17

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	17-027-0	27-Mar-2018
California	2919 2016-2018	31-Jul-2018
Illinois	004112	09-May-2018
Kentucky	123043	30-Apr-2018
Louisiana	03087 2017-2017	30-Jun-2018
North Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

ALS Group USA, Corp

Date: 14-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17120448

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS17120448-01	S-1 (API HC)	Login	12/8/2017 1:24:53 PM	RPG	Sub
HS17120448-02	S-3 (API Water)	Login	12/8/2017 1:24:53 PM	RPG	Sub
HS17120448-03	S-5 (T-40)	Login	12/8/2017 1:24:53 PM	RPG	Sub
HS17120448-04	S-6 (T-41)	Login	12/8/2017 1:24:53 PM	RPG	Sub

ALS Group USA, Corp

Date: 14-Dec-17

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS17120448

Date/Time Received: **06-Dec-2017 09:50**
Received by: **JRM**

Checklist completed by: Raegen Giga
eSignature

8-Dec-2017
Date

Reviewed by: Nicole Edwards
eSignature

8-Dec-2017
Date

Matrices: **water**

Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☒
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	2.1c/2.4c uc/c IR 11		
Cooler(s)/Kit(s):	Foam		
Date/Time sample(s) sent to storage:	12/06/2017 13:51		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Chain of Custody Form

Page 1 of 1

HS17120448

Navajo Refining Company
BWON Monthly Sampling (EOL)

ALS Project Manager: Erica Padilla

Project Information

Customer Information		Project Information																	
Purchase Order		Project Name	BWON Monthly Sampling (EOL)	A Specific Gravity															
Work Order		Project Number		B															
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC	C															
Send Report To	Tyler Turner Gabi Combs	Invoice Attn.	Susie Aguilar	D															
Address	P.O. Box 159	Address	501 East Main	E															
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210	F															
Phone	(575) 748-3311	Phone	(575) 748-3311	G															
Fax	(575) 746-5451	Fax	(575) 746-5451	H															
e-Mail Address	ltuner.am@gmail.com Gabiela.Combs@hollyfrontier.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com	I															
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	S-1 (API HC)	12/05/17	9:48 AM	Liquid	8	1	X												
2	S-3 (API Water)	12/05/17	9:36 AM	Liquid	8	1	X												
3	S-5 (T-40)	12/05/17	9:00 AM	Liquid	8	1	X												
4	S-6 (T-41)	12/05/17	9:05 AM	Liquid	8	1	X												
5																			
6																			
7																			
8																			
9																			
10																			
Sampler(s): Please Print & Sign <i>Brady Hubbard</i>		Shipment Method: <i>FedEx</i>		Required Turnaround Time:										Results Due Date:					
Relinquished by: <i>Brady Hubbard</i>		Date: <i>12-5-17</i>		Time: <i>4:00pm</i>		Received by:		☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour											
Relinquished by: <i>Brady Hubbard</i>		Date: <i>12/6/17</i>		Time: <i>09:50</i>		Received by (Laboratory): <i>Jm</i>		Notes:											
Logged by (Laboratory):		Date:		Time:		Checked by (Laboratory):		Cooler Temp. <i>2-1</i>		QC Package: (Check Box Below)									
										☐ Level II: Standard QC ☐ Level III: Std QC + Raw Data ☐ Level IV: SW846 CLP-Like								☐ TRRP-Checklist ☐ TRRP Level IV	
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																		Other: _____	

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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DEC 0 8 2017

Form

ALS

10450 Stanciliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5687

Company Name: **ALS**
Date: **12-05-17**
Time: **11:50 AM**
Signature: **Brady Hubbard**

CUSTOMER SEAL

Seal Broken By: **M**
Date: **12/06/17**

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

ORIGIN ID: DROMA (575) 637-2398
BRADY HUBBARD
ALTA MICROBICS
C/O E. MAN
C/O ALTA MICROBICS
ARTESIA, CA 90701
UNITED STATES US

SHIP DATE: 05 DEC 17
ACTIVITY: 05 DEC 17
CAD: 0417382041E3108

BILL RECIPIENT

TO: NICOLE EDWARDS
ALS
10450 STANCLIFF
SUITE 210
HOUSTON TX 77099
REF: (361) 254-3347
REV: 10/15/17

DEPT

546C1574C53C1

Dangerous Goods as per attached DSD-CAO

TRK# 7093 0859 0512
WED - 06 DEC 10:30A
PRIORITY OVERNIGHT
ADG 77099
TX-US IAH

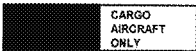
AB SGRA

Barcode: 7093 0859 0512

FedEx Express

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to airline.)

Shipper Brady Hubbard AQUA MICROBICS 501 E MAIN C/O AQUA MICROBICS ARTESIA NM 88210 US		Air Waybill No. 709308590512 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Nicole Edwards ALS 10450 Stanciff Suite 210 HOUSTON TX 77099 US		FedEx FX 18 Compliant Express CAFE3108	
<i>Two completed and signed copies of this Declaration must be handed to the operator</i>		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS			
This shipment is within the limitations prescribed for: (delete non applicable)		Airport of Departure ARTESIA	
			
Airport of Destination: HOUSTON ABSGRA		Shipment type: (delete non applicable) NON-RADIOACTIVE	
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 3266, Corrosive liquid, basic, inorganic, n.o.s.(Sodium Hydroxide), 8, I/ 0.08 L/854 UN 1268, Petroleum distillates, n.o.s., 3, III/ 0.04 L/366 All Packed In One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 12/05/2017 Signature Brady Hubbard (see warning above) 	
18004249300 <i>Emergency Telephone Number</i>			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

LOGOS #157295 11/12



14-Dec-2017

Nicole Edwards
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS17120448**

Work Order: **1712629**

Dear Nicole,

ALS Environmental received 4 samples on 09-Dec-2017 11:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chad Whelton', is written over a horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

Report of Laboratory Analysis

ADDRESS 3362 126th Ave. Holland, Michigan 49424 | PHONE (516) 399-6070 | FAX (516) 399-6185

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Environmental

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HFNA-000001894

ALS Group, USA

Date: 14-Dec-17

Client: ALS Environmental**Project:** HS17120448**Work Order:** 1712629**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1712629-01	HS17120448-01	Liquid	S-1 (API HC)	12/5/2017 09:48	12/9/2017 11:30	☐
1712629-02	HS17120448-02	Liquid	S-3 (API Water)	12/5/2017 09:36	12/9/2017 11:30	☐
1712629-03	HS17120448-03	Liquid	S-5 (T-40)	12/5/2017 09:00	12/9/2017 11:30	☐
1712629-04	HS17120448-04	Liquid	S-6 (T-41)	12/5/2017 09:05	12/9/2017 11:30	☐

ALS Group, USA

Date: 14-Dec-17

Client: ALS Environmental
Project: HS17120448
WorkOrder: 1712629

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
none	

ALS Group, USA**Date:** 14-Dec-17

Client: ALS Environmental
Project: HS17120448
Sample ID: HS17120448-01
Collection Date: 12/5/2017 09:48 AM

Work Order: 1712629
Lab ID: 1712629-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY Specific Gravity	1.00		D5057-90	none	1	Analyst: RZM 12/13/2017 04:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-17

Client: ALS Environmental
Project: HS17120448
Sample ID: HS17120448-02
Collection Date: 12/5/2017 09:36 AM

Work Order: 1712629
Lab ID: 1712629-02
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.00			none	1	12/13/2017 04:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-17

Client: ALS Environmental
Project: HS17120448
Sample ID: HS17120448-03
Collection Date: 12/5/2017 09:00 AM

Work Order: 1712629
Lab ID: 1712629-03
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.14			none	1	12/13/2017 04:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-17

Client: ALS Environmental
Project: HS17120448
Sample ID: HS17120448-04
Collection Date: 12/5/2017 09:05 AM

Work Order: 1712629
Lab ID: 1712629-04
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.15			none	1	12/13/2017 04:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Dec-17

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1712629

Project: HS17120448

Batch ID: R226448

Instrument ID WETCHEM

Method: D5057-90

DUP	Sample ID: 17 12629-02A DUP				Units: none		Analysis Date: 12/13/2017 04:15 PM			
Client ID: HS17120448-02			Run ID: WETCHEM_171213R		SeqNo: 4809420		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	1.002	0	0	0	0	0-0	1.003	0.0299	20	

The following samples were analyzed in this batch:

1712629-01A	1712629-02A	1712629-03A
1712629-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

1712629



10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

COC ID: 8189

SUBCONTRACT TO:

ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: Nicole Edwards
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: Nicole.Edwards@alsglobal.com
Alternate Contact: Jumoke M. Lawal
Email: jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS17120448
TSR: Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS17120448-01	S-1 (API HC)	Liquid	05 Dec 2017 09:48
	Specific Gravity Sub to ALS Holland			13 Dec 2017
2.	HS17120448-02	S-3 (API Water)	Liquid	05 Dec 2017 09:36
	Specific Gravity Sub to ALS Holland			13 Dec 2017
3.	HS17120448-03	S-5 (T-40)	Liquid	05 Dec 2017 09:00
	Specific Gravity Sub to ALS Holland			13 Dec 2017
4.	HS17120448-04	S-6 (T-41)	Liquid	05 Dec 2017 09:05
	Specific Gravity Sub to ALS Holland			13 Dec 2017

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By:

NA

Date/Time:

12/8/17 18:00

Received By:

Date/Time:

12/9/17 1130

Cooler ID(s):

Temperature(s):

SR2 2.6°C

SDS SHEETS ATTACHED

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HFNA-000001902

ALS Group, USA

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**Date/Time Received: **09-Dec-17 11:30**Work Order: **1712629**Received by: **DS**Checklist completed by *Diane Shava*
eSignature11-Dec-17
DateReviewed by: *Alex Coaszar*
eSignature11-Dec-17
DateMatrices: **Liquid**Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐No ☐Not Present ☒

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

Chain of custody signed when relinquished and received?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Sample(s) received on ice?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

2.6/2.6 cSR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

12/11/2017 1:44:58 PM

Water - VOA vials have zero headspace?

Yes ☐No ☐No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐No ☐N/A ☒

pH adjusted?

Yes ☐No ☐N/A ☒

pH adjusted by:

-

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

December 13, 2017

Tyler Turner (Cons. Aqua Microbics)
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS17120451**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Tyler,

ALS Environmental received 9 sample(s) on Dec 06, 2017 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumokey.Lawal
Nicole Edwards
Project Manager

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17120451

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17120451-01	S-1 (API HC)	Liquid		05-Dec-2017 09:48	06-Dec-2017 09:50	☐
HS17120451-02	S-3 (API Water)	Liquid		05-Dec-2017 09:36	06-Dec-2017 09:50	☐
HS17120451-03	S-5 (T-40)	Liquid		05-Dec-2017 09:00	06-Dec-2017 09:50	☐
HS17120451-04	S-6 (T-41)	Liquid		05-Dec-2017 09:05	06-Dec-2017 09:50	☐
HS17120451-05	Field Blank	Liquid		05-Dec-2017 09:31	06-Dec-2017 09:50	☐
HS17120451-06	EQ Blank Port 1	Liquid		05-Dec-2017 09:55	06-Dec-2017 09:50	☐
HS17120451-07	EQ Blank Port 2	Liquid		05-Dec-2017 09:55	06-Dec-2017 09:50	☐
HS17120451-08	Duplicate	Liquid		05-Dec-2017 00:00	06-Dec-2017 09:50	☐
HS17120451-09	Trip Blank	Liquid		05-Dec-2017 00:00	06-Dec-2017 09:50	☐

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS17120451

CASE NARRATIVE

GCMS Volatiles by Method SW8260**Batch ID: R306950**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R306963**Sample ID: S-1 (API HC) (HS17120451-01)**

- Lowest practical dilution for HS17120451-01 ,due to sample matrix.

Sample ID: S-5 (T-40) (HS17120451-03)

- Surrogates failure for HS17120451-03 due to sample matrix.
- Lowest practical dilution for HS17120451-03 ,due to sample matrix.

Sample ID: S-6 (T-41) (HS17120451-04)

- Lowest practical dilution for HS17120451-04 ,due to sample matrix.
- Surrogates failure for HS17120451-04 due to sample matrix.

Batch ID: R307105

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-1 (API HC)
 Collection Date: 05-Dec-2017 09:48

ANALYTICAL REPORT

WorkOrder:HS17120451
 Lab ID:HS17120451-01
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260		Analyst: WLR			
Benzene	< 0.025		0.025	0.25	mg/Kg	50	11-Dec-2017 19:13
Surr: 1,2-Dichloroethane-d4	95.3			70-126	%REC	50	11-Dec-2017 19:13
Surr: 4-Bromofluorobenzene	101			73-120	%REC	50	11-Dec-2017 19:13
Surr: Dibromofluoromethane	98.0			70-130	%REC	50	11-Dec-2017 19:13
Surr: Toluene-d8	97.2			82-121	%REC	50	11-Dec-2017 19:13

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-3 (API Water)
 Collection Date: 05-Dec-2017 09:36

ANALYTICAL REPORT

WorkOrder:HS17120451
 Lab ID:HS17120451-02
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	0.43		0.0060	0.050	mg/L	10	12-Dec-2017 17:07
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>80.7</i>			<i>70-126</i>	<i>%REC</i>	<i>10</i>	<i>12-Dec-2017 17:07</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>94.0</i>			<i>82-124</i>	<i>%REC</i>	<i>10</i>	<i>12-Dec-2017 17:07</i>
<i>Surr: Dibromofluoromethane</i>	<i>91.8</i>			<i>77-123</i>	<i>%REC</i>	<i>10</i>	<i>12-Dec-2017 17:07</i>
<i>Surr: Toluene-d8</i>	<i>103</i>			<i>82-127</i>	<i>%REC</i>	<i>10</i>	<i>12-Dec-2017 17:07</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-5 (T-40)
 Collection Date: 05-Dec-2017 09:00

ANALYTICAL REPORT

WorkOrder:HS17120451
 Lab ID:HS17120451-03
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260		Analyst: WLR			
Benzene	< 0.024		0.024	0.24	mg/Kg	50	11-Dec-2017 19:37
Surr: 1,2-Dichloroethane-d4	97.7			70-126	%REC	50	11-Dec-2017 19:37
Surr: 4-Bromofluorobenzene	101			73-120	%REC	50	11-Dec-2017 19:37
Surr: Dibromofluoromethane	61.7	S		70-130	%REC	50	11-Dec-2017 19:37
Surr: Toluene-d8	95.2			82-121	%REC	50	11-Dec-2017 19:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-6 (T-41)
 Collection Date: 05-Dec-2017 09:05

ANALYTICAL REPORT

WorkOrder:HS17120451
 Lab ID:HS17120451-04
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C	Method:SW8260						Analyst: WLR
Benzene	< 0.025		0.025	0.25	mg/Kg	50	11-Dec-2017 20:00
Surr: 1,2-Dichloroethane-d4	98.1			70-126	%REC	50	11-Dec-2017 20:00
Surr: 4-Bromofluorobenzene	105			73-120	%REC	50	11-Dec-2017 20:00
Surr: Dibromofluoromethane	62.9	S		70-130	%REC	50	11-Dec-2017 20:00
Surr: Toluene-d8	95.2			82-121	%REC	50	11-Dec-2017 20:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Field Blank
 Collection Date: 05-Dec-2017 09:31

ANALYTICAL REPORT

WorkOrder:HS17120451
 Lab ID:HS17120451-05
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	10-Dec-2017 18:03
Surr: 1,2-Dichloroethane-d4	98.8			70-126	%REC	1	10-Dec-2017 18:03
Surr: 4-Bromofluorobenzene	104			82-124	%REC	1	10-Dec-2017 18:03
Surr: Dibromofluoromethane	100			77-123	%REC	1	10-Dec-2017 18:03
Surr: Toluene-d8	102			82-127	%REC	1	10-Dec-2017 18:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 1
 Collection Date: 05-Dec-2017 09:55

ANALYTICAL REPORT

WorkOrder:HS17120451
 Lab ID:HS17120451-06
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method:SW8260						Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	10-Dec-2017 18:30
Surr: 1,2-Dichloroethane-d4	94.9			70-126	%REC	1	10-Dec-2017 18:30
Surr: 4-Bromofluorobenzene	98.1			82-124	%REC	1	10-Dec-2017 18:30
Surr: Dibromofluoromethane	97.8			77-123	%REC	1	10-Dec-2017 18:30
Surr: Toluene-d8	100			82-127	%REC	1	10-Dec-2017 18:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 2
 Collection Date: 05-Dec-2017 09:55

ANALYTICAL REPORT

WorkOrder:HS17120451
 Lab ID:HS17120451-07
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	10-Dec-2017 18:56
Surr: 1,2-Dichloroethane-d4	97.2			70-126	%REC	1	10-Dec-2017 18:56
Surr: 4-Bromofluorobenzene	105			82-124	%REC	1	10-Dec-2017 18:56
Surr: Dibromofluoromethane	97.4			77-123	%REC	1	10-Dec-2017 18:56
Surr: Toluene-d8	105			82-127	%REC	1	10-Dec-2017 18:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Duplicate
 Collection Date: 05-Dec-2017 00:00

ANALYTICAL REPORT

WorkOrder:HS17120451
 Lab ID:HS17120451-08
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	0.41		0.0060	0.050	mg/L	10	12-Dec-2017 17:34
<i>Surr: 1,2-Dichloroethane-d4</i>	86.9			70-126	%REC	10	12-Dec-2017 17:34
<i>Surr: 4-Bromofluorobenzene</i>	99.0			82-124	%REC	10	12-Dec-2017 17:34
<i>Surr: Dibromofluoromethane</i>	92.4			77-123	%REC	10	12-Dec-2017 17:34
<i>Surr: Toluene-d8</i>	107			82-127	%REC	10	12-Dec-2017 17:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Trip Blank
 Collection Date: 05-Dec-2017 00:00

ANALYTICAL REPORT

WorkOrder:HS17120451
 Lab ID:HS17120451-09
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	10-Dec-2017 17:36
Surr: 1,2-Dichloroethane-d4	88.5			70-126	%REC	1	10-Dec-2017 17:36
Surr: 4-Bromofluorobenzene	97.6			82-124	%REC	1	10-Dec-2017 17:36
Surr: Dibromofluoromethane	96.7			77-123	%REC	1	10-Dec-2017 17:36
Surr: Toluene-d8	98.4			82-127	%REC	1	10-Dec-2017 17:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17120451

Batch ID: 2149 **Method:** VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS17120451-01	1	5.063 (g)	5 (mL)	0.99	Bulk (5030B)
HS17120451-03	1	5.102 (g)	5 (mL)	0.98	Bulk (5030B)
HS17120451-04	1	5.033 (g)	5 (mL)	0.99	Bulk (5030B)

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17120451

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R306950 Test Name : VOLATILES - SW8260C Matrix: Liquid						
HS17120451-05	Field Blank	05 Dec 2017 09:31			10 Dec 2017 18:03	1
HS17120451-06	EQ Blank Port 1	05 Dec 2017 09:55			10 Dec 2017 18:30	1
HS17120451-07	EQ Blank Port 2	05 Dec 2017 09:55			10 Dec 2017 18:56	1
HS17120451-09	Trip Blank	05 Dec 2017 00:00			10 Dec 2017 17:36	1
Batch ID R306963 Test Name : VOLATILES BY SW8260C Matrix: Liquid						
HS17120451-01	S-1 (API HC)	05 Dec 2017 09:48			11 Dec 2017 19:13	50
HS17120451-03	S-5 (T-40)	05 Dec 2017 09:00			11 Dec 2017 19:37	50
HS17120451-04	S-6 (T-41)	05 Dec 2017 09:05			11 Dec 2017 20:00	50
Batch ID R307105 Test Name : VOLATILES - SW8260C Matrix: Liquid						
HS17120451-02	S-3 (API Water)	05 Dec 2017 09:36			12 Dec 2017 17:07	10
HS17120451-08	Duplicate	05 Dec 2017 00:00			12 Dec 2017 17:34	10

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17120451

QC BATCH REPORT

Batch ID: R306950		Instrument: VOA1		Method: SW8260					
MBLK	Sample ID: VBLKW-171210	Units: ug/L		Analysis Date: 10-Dec-2017 12:15					
Client ID:	Run ID: VOA1_306950	SeqNo: 4345073		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Dimethyl disulfide	< 0.055	1.0							
Surr: 1,2-Dichloroethane-d4	46.11	0	50	0	92.2	70 - 123			
Surr: 4-Bromofluorobenzene	51.68	0	50	0	103	83 - 122			
Surr: Dibromofluoromethane	47.36	0	50	0	94.7	73 - 126			
Surr: Toluene-d8	52.1	0	50	0	104	81 - 119			

LCS	Sample ID: VLCSW-171210	Units: ug/L		Analysis Date: 10-Dec-2017 11:22					
Client ID:	Run ID: VOA1_306950	SeqNo: 4345072		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	50.14	5.0	50	0	100	74 - 120			
Surr: 1,2-Dichloroethane-d4	48.52	0	50	0	97.0	70 - 130			
Surr: 4-Bromofluorobenzene	49.41	0	50	0	98.8	83 - 122			
Surr: Dibromofluoromethane	48.09	0	50	0	96.2	73 - 126			
Surr: Toluene-d8	47.11	0	50	0	94.2	81 - 119			

MS	Sample ID: HS17120338-01MS	Units: ug/L		Analysis Date: 10-Dec-2017 14:02					
Client ID:	Run ID: VOA1_306950	SeqNo: 4345075		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	49.98	5.0	50	0	100.0	70 - 127			
Surr: 1,2-Dichloroethane-d4	50.84	0	50	0	102	70 - 126			
Surr: 4-Bromofluorobenzene	53.16	0	50	0	106	82 - 124			
Surr: Dibromofluoromethane	49.45	0	50	0	98.9	77 - 123			
Surr: Toluene-d8	46.59	0	50	0	93.2	82 - 127			

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17120451

QC BATCH REPORT

Batch ID: R306950		Instrument: VOA1		Method: SW8260						
MSD	Sample ID: HS17120338-01MSD	Units: ug/L			Analysis Date: 10-Dec-2017 14:29					
Client ID:	Run ID: VOA1_306950	SeqNo: 4345076		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	42.9	5.0	50	0	85.8	70 - 127	49.98	15.2	20	
Surr: 1,2-Dichloroethane-d4	47.63	0	50	0	95.3	70 - 126	50.84	6.52	20	
Surr: 4-Bromofluorobenzene	52.71	0	50	0	105	82 - 124	53.16	0.856	20	
Surr: Dibromofluoromethane	50.37	0	50	0	101	77 - 123	49.45	1.85	20	
Surr: Toluene-d8	46.64	0	50	0	93.3	82 - 127	46.59	0.112	20	
The following samples were analyzed in this batch:		HS17120451-05		HS17120451-06		HS17120451-07		HS17120451-09		

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17120451

QC BATCH REPORT

Batch ID: R306963		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: MBLKW1-121117	Units: ug/Kg		Analysis Date: 11-Dec-2017 14:35					
Client ID:	Run ID: VOA8_306963	SeqNo: 4345297		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2527	0	2500	0	101	76 - 125			
Surr: 4-Bromofluorobenzene	2415	0	2500	0	96.6	83 - 120			
Surr: Dibromofluoromethane	2524	0	2500	0	101	80 - 119			
Surr: Toluene-d8	2535	0	2500	0	101	81 - 118			

LCS	Sample ID: VLCSW1-121117	Units: ug/Kg		Analysis Date: 11-Dec-2017 13:48					
Client ID:	Run ID: VOA8_306963	SeqNo: 4345296		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	45.51	5.0	50	0	91.0	75 - 124			
Surr: 1,2-Dichloroethane-d4	53.81	0	50	0	108	76 - 125			
Surr: 4-Bromofluorobenzene	50.41	0	50	0	101	83 - 120			
Surr: Dibromofluoromethane	52.42	0	50	0	105	80 - 119			
Surr: Toluene-d8	49.51	0	50	0	99.0	81 - 118			

MS	Sample ID: HS17120051-07MS	Units: ug/Kg		Analysis Date: 11-Dec-2017 17:41					
Client ID:	Run ID: VOA8_306963	SeqNo: 4345866		PrepDate:		DF: 500			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	24030	2400	23750	0	101	70 - 130			
Surr: 1,2-Dichloroethane-d4	21540	0	23750	0	90.7	70 - 126			
Surr: 4-Bromofluorobenzene	23790	0	23750	0	100	72 - 120			
Surr: Dibromofluoromethane	22160	0	23750	0	93.3	70 - 130			
Surr: Toluene-d8	23360	0	23750	0	98.3	82 - 121			

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17120451

QC BATCH REPORT

Batch ID: R306963		Instrument: VOA8		Method: SW8260						
MSD	Sample ID: HS17120051-07MSD	Units: ug/Kg			Analysis Date: 11-Dec-2017 18:04					
Client ID:	Run ID: VOA8_306963	SeqNo: 4345867			PrepDate:			DF: 500		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	25140	2400	23750	0	106	70 - 130	24030	4.51	30	
Surr: 1,2-Dichloroethane-d4	21240	0	23750	0	89.4	70 - 126	21540	1.42	30	
Surr: 4-Bromofluorobenzene	23600	0	23750	0	99.4	72 - 120	23790	0.802	30	
Surr: Dibromofluoromethane	23590	0	23750	0	99.3	70 - 130	22160	6.26	30	
Surr: Toluene-d8	23380	0	23750	0	98.4	82 - 121	23360	0.0977	30	
The following samples were analyzed in this batch:		HS17120451-01		HS17120451-03		HS17120451-04				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17120451

QC BATCH REPORT

Batch ID: R307105		Instrument: VOA1		Method: SW8260						
MBLK	Sample ID: VBLKW-171212	Units: ug/L		Analysis Date: 12-Dec-2017 12:38						
Client ID:	Run ID: VOA1_307105	SeqNo: 4348785		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	< 0.60	5.0								
Dimethyl disulfide	< 0.055	1.0								
Surr: 1,2-Dichloroethane-d4	44.76	0	50	0	89.5	70 - 123				
Surr: 4-Bromofluorobenzene	47.3	0	50	0	94.6	83 - 122				
Surr: Dibromofluoromethane	46.6	0	50	0	93.2	73 - 126				
Surr: Toluene-d8	49.85	0	50	0	99.7	81 - 119				

LCS	Sample ID: VLCSW-171212	Units: ug/L		Analysis Date: 12-Dec-2017 11:45						
Client ID:	Run ID: VOA1_307105	SeqNo: 4348784		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	45.03	5.0	50	0	90.1	74 - 120				
Surr: 1,2-Dichloroethane-d4	46.11	0	50	0	92.2	70 - 130				
Surr: 4-Bromofluorobenzene	53.03	0	50	0	106	83 - 122				
Surr: Dibromofluoromethane	47.65	0	50	0	95.3	73 - 126				
Surr: Toluene-d8	51.7	0	50	0	103	81 - 119				

MS	Sample ID: HS17120351-02MS	Units: ug/L		Analysis Date: 12-Dec-2017 15:46						
Client ID:	Run ID: VOA1_307105	SeqNo: 4348787		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	44.6	5.0	50	0	89.2	70 - 127				
Surr: 1,2-Dichloroethane-d4	46.01	0	50	0	92.0	70 - 126				
Surr: 4-Bromofluorobenzene	49.91	0	50	0	99.8	82 - 124				
Surr: Dibromofluoromethane	48.04	0	50	0	96.1	77 - 123				
Surr: Toluene-d8	49.02	0	50	0	98.0	82 - 127				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS17120451

QC BATCH REPORT

Batch ID: R307105		Instrument: VOA1		Method: SW8260						
MSD	Sample ID: HS17120351-02	MSD		Units: ug/L	Analysis Date: 12-Dec-2017 16:13					
Client ID:	Run ID: VOA1_307105		SeqNo: 4348788		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Benzene	41.07	5.0	50	0	82.1	70 - 127	44.6	8.24	20	
Surr: 1,2-Dichloroethane-d4	45.79	0	50	0	91.6	70 - 126	46.01	0.491	20	
Surr: 4-Bromofluorobenzene	47.73	0	50	0	95.5	82 - 124	49.91	4.46	20	
Surr: Dibromofluoromethane	47.08	0	50	0	94.2	77 - 123	48.04	2.02	20	
Surr: Toluene-d8	50.48	0	50	0	101	82 - 127	49.02	2.94	20	
The following samples were analyzed in this batch:		HS17120451-02		HS17120451-08						

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 13-Dec-17

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS17120451

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 13-Dec-17

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	17-027-0	27-Mar-2018
California	2919 2016-2018	31-Jul-2018
Illinois	004112	09-May-2018
Kentucky	123043	30-Apr-2018
Louisiana	03087 2017-2017	30-Jun-2018
North Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

ALS Group USA, Corp

Date: 13-Dec-17

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS17120451

Date/Time Received: **06-Dec-2017 09:50**
Received by: **JRM**

Checklist completed by: Raegen Giga
eSignature

8-Dec-2017
Date

Reviewed by: Nicole Edwards
eSignature

8-Dec-2017
Date

Matrices: **Liquid**

Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☒
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	2.1c/2.4c uc/c IR 11		
Cooler(s)/Kit(s):	styrafoam		
Date/Time sample(s) sent to storage:	12/06/2017 18:00		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

Page 1 of 1

- ☐ Cincinnati, OH
+1 513 733 5336
 ☐ Holland, MI
+1 616 399 6070
 ☐ Salt Lake City, UT
+1 801 266 7700
- ☐ Everett, WA
+1 425 356 2600
 ☐ Houston, TX
+1 281 530 5656
 ☐ Spring City, PA
+1 610 948 4903
- ☐ Fort Collins, CO
+1 970 490 1511
 ☐ Middletown, PA
+1 717 944 5541
 ☐ York, PA
+1 717 505 5280

Customer Information			Project Information				Parameter/Method Request for Analysis												
Purchase Order			Project Name	BWON Monthly Sampling (EOL)			A	VOLATILES (8260) Benzene											
Work Order			Project Number				B												
Company Name	Navajo Refining Company LLC		Bill To Company	Holly Frontier Navajo Refining LLC			C	HS17120451 Navajo Refining Company BWON Monthly Sampling (EOL) 											
Send Report To	Tyler Turner Gabi Combs		Invoice Attn	Susie Aguilar			D												
Address	P.O. Box 159		Address	501 East Main			E												
City/State/Zip	Artesia, NM 88211-0159		City/State/Zip	Artesia, New Mexico 88210			F												
Phone	(575) 748-3311		Phone	(575) 748-3311			G												
Fax	(575) 746-5451		Fax	(575) 746-5451			H												
e-Mail Address	turner.am@gmail.com Gabiela.Combs@hollyfrontier.com		e-Mail Address	Suzanne.Aguilar@hollyfrontier.com			I												
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	S-1 (API HC)	12/05/17	9:48 AM	Liquid	8	1	X												
2	S-3 (API Water)	12/05/17	9:36 AM	Liquid	8,1	1	X												
3	S-5 (T-40)	12/05/17	9:00 AM	Liquid	8	1	X												
4	S-6 (T-41)	12/05/17	9:05 AM	Liquid	8	1	X												
5	Field Blank	12/05/17	9:31 AM	Liquid	8,1	1	X												
6	EQ Blank Port 1	12/05/17	9:55 AM	Liquid	8,1	1	X												
7	EQ Blank Port 2	12/05/17	9:55 AM	Liquid	8,1	1	X												
8	Duplicate	12/05/17	XXX	Liquid	8,1	1	X												
9	Trip Blank	12/05/17	XXX	Liquid	8,1	2	X												
10	Temperature Blank	12/05/17		Liquid		1													
Sampler(s): Please Print & Sign <i>Brady Hubbard</i>			Shipment Method: <i>FedEx</i>		Required Turnaround Time: ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour				Results Due Date:										
Relinquished by: <i>Brady Hubbard</i>		Date: <i>12-5-17</i>	Time: <i>4:00 pm</i>	Received by:			Notes:												
Relinquished by:		Date: <i>12/6/17</i>	Time: <i>09:50</i>	Received by (Laboratory): <i>JM</i>			Cooler Temp. <i>2.1</i>		QC Package: (Check Box Below)										
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):					Level II: Standard QC				TRRP-Checklist						
									Level III: Std QC + Raw Data				TRRP Level IV						
									Level IV: SW846 CLP-Like										
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																			
Other:																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

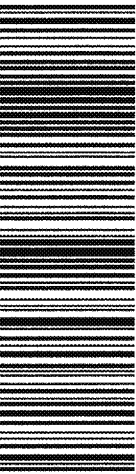
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Foam
DEC 0 9 2017

		10450 Stanciliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 6656 Fax. +1 281 530 5887
CUSTODY SEAL Date: 12-05-17 Time: 1:00 PM Name: Brad Hubbard Company:		
Seal Broken By: <i>ms</i> Date: 12-06-17		

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
 1. Fold the printed page along the horizontal line.
 2. Place label in shipping pouch and affix it to your shipment.

ORIGIN ID: ROWA (575) 637-2398 BRADY HUBBARD 530 E. WYATT SUITE 210 C/O ALU MICROBICS ARTESIA, NM 88210 UNITED STATES US		SHIP DATE: 09DEC17 ACTWGT: 35.00 LB MM CAD: 0477385CAFE3108 BILL RECIPIENT
TO NICOLE EDWARDS ALS 10450 STANCLIFF SUITE 210 HOUSTON TX 77099 REF: (361) 254-3347 NV:		
DEPT:		
546C1674C63C1		
		
DANGEROUS GOODS: as per attached DGD-CMO TRK# 7093 0859 0512 WED - 06 DEC 10:30A PRIORITY OVERNIGHT ADG 77099 TX-US IAH		
		

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to airline.)

Shipper Brady Hubbard AQUA MICROBICS 501 E MAIN C/O AQUA MICROBICS ARTESIA NM88210 US		Air Waybill No. 709308590512 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Nicole Edwards ALS 10450 Stancilff Suite 210 HOUSTON TX 77099 US		FedEx FX 18 Compliant Express CAFE3108	
<i>Two completed and signed copies of this Declaration must be handed to the operator</i>		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS			
This shipment is within the limitations prescribed for: (delete non applicable)		Airport of Departure ARTESIA	
			
Airport of Destination: HOUSTON ABSGRA		Shipment type: (delete non applicable) NON-RADIOACTIVE	
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 3266, Corrosive liquid, basic, inorganic, n.o.s.(Sodium Hydroxide), 8, I// 0.08 L/854 UN 1268, Petroleum distillates, n.o.s., 3, III// 0.04 L/366 All Packed In One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 12/05/2017 Signature (see warning above) Brady Hubbard 	
18004249300		Emergency Telephone Number	
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

LOGOS #157295 11/12



April 30, 2019

U.S. Environmental Protection Agency
Director, Air Enforcement Division
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code 2242-A
Washington, DC 20460

Certified Mail/Return Receipt
7014 3490 0000 6269 5352

**Re: Quarterly Implementation Progress Report
Pursuant to the Consent Decree entered March 5, 2002 by the
U.S. District Court for the District of New Mexico in
United States of America et al. v. Navajo Refining Company, LLC et al.**

Dear Director:

Pursuant to Paragraphs 37 and 23.O of the subject consent decree, this submittal provides the status of implementation of consent decree requirements through the calendar quarter ending March 31, 2019 for HollyFrontier Navajo Refining LLC (formerly Navajo Refining Company, L.L.C), (Navajo's) Artesia and Lovington, NM refineries. As specified by Paragraph 37, a statement of certification is provided on the following page.

In accordance with the notice provisions of Paragraph 91, copies of this report are being mailed to both addresses listed for the State of New Mexico. Navajo is also providing an additional hardcopy to EPA's contractor and an electronic-mail copy to the address provided in the email from EPA Region 6 dated January 31, 2019.

If you have any questions regarding this submittal, please contact me at the address below or by phone at 575-746-5487.

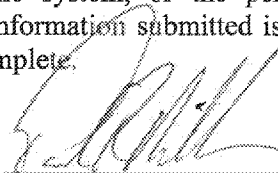
Sincerely,

Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC

By signature below, the undersigned hereby certifies to the following:

Statement of Certification

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.



Parrish R. Miller
Vice President & Refinery Manager
HollyFrontier Navajo Refining LLC

Enclosure

cc (w/enc.): Bureau Chief
Air Quality Bureau
New Mexico Environment Department
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87507

General Counsel
Office of General Counsel
New Mexico Environment Department
P.O. Box 26110
Santa Fe, NM 87502-6110

U.S. Environmental Protection Agency
c/o Matrix Environmental & Geotechnical Services
Matrix New World Engineering, Inc.
26 Columbia Turnpike
Florham Park, NJ 07932

Electronic cc (w/enc.): R6CAACDDeliverables@epa.gov

Electronic cc (w/enc.): HollyFrontier: P. Miller, B. Romine, G. Combs
J. Stump, T. Jones, T. Wheeler, S. Gokhale; R. Bagherian

Environmental File: G:\Environmental\2.0 Air Quality\2.1 Original Agency Correspondence\2019

CALENDAR QUARTERLY REPORT

**SUBMITTED PURSUANT TO SECTION IX
OF THE CONSENT DECREE ENTERED IN
*UNITED STATES OF AMERICA ET AL.
V. NAVAJO REFINING COMPANY, L.P.,
AND MONTANA REFINING COMPANY*
(ENTERED MARCH 5, 2002)**

Cumulative from Lodging (December 20, 2001)
Through March 31, 2018

**HollyFrontier Navajo Refining LLC
(formerly Navajo Refining Company, L.L.C.)
Artesia and Lovington, NM Refineries
P.O. Box 159
Artesia, NM 88211-0159**

Calendar Quarterly Report – 1st Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

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1.0 INTRODUCTION	1
2.0 PROGRESS REPORT ON IMPLEMENTATION OF SECTION V OF THE CONSENT DECREE.....	2
3.0 SUMMARY OF ACTUAL OR ANTICIPATED PROBLEMS IN IMPLEMENTING THE REQUIREMENTS OF SECTION V.	24
4.0 SUMMARY OF EMISSIONS DATA	24
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6.0 OTHER MATTERS.....	33

ATTACHMENTS

ATTACHMENT 1 – APPENDIX G SUMMARY REPORT
ATTACHMENT 2 – APPENDIX H SUMMARY REPORT
ATTACHMENT 3 – QUARTERLY EOL SUMMARY
ATTACHMENT 4 – 2018 TAB SUMMARY

ENCLOSED CD

ATTACHMENT 5 – 1QT 2019 EOL ANALYTICAL REPORTS
ATTACHMENT 6 – 2018 TAQB ANALYTICAL RESULTS
ATTACHMENT 7 – NSPS SUBPART JA EXCESS EMISSIONS
PERIOD: JULY-DECEMBER 2018

Calendar Quarterly Report – 1st Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

CALENDAR QUARTERLY REPORT

Cumulative from Lodging (DECEMBER 20, 2001) Through March 31, 2019

**HollyFrontier Navajo Refining LLC (Navajo)
Artesia and Lovington, NM Refineries**

1.0 INTRODUCTION

In accordance with the requirements of Section IX of the Consent Decree entered in *UNITED STATES OF AMERICA ET AL., D.V.M. NAVAJO REFINING COMPANY, L.P., AND MONTANA REFINING COMPANY* (entered March 5, 2002), Navajo submits the following “calendar quarterly report” for the Artesia and Lovington, NM refineries. Section IX requires that the quarterly report be submitted within 30 days following the calendar quarter. Today’s report covers actions through the first quarter 2019. For completeness, this report addresses relevant actions or activities not just within the current quarter but anytime after the December 20, 2001 Date of Lodging. The contents of this report include:

1. A progress report on the implementation of the requirements of Section V (Section 2.0)
2. A description of any problems anticipated with respect to meeting the requirements of Section V (Section 3.0)
3. A summary of the emissions data as required by Section V (Section 4.0);
4. A description of environmentally beneficial projects and SEP implementation activity during this reporting period (Section 5.0); and
5. Such other matters as Navajo believes should be brought to the attention of EPA (Section 6.0).

Summaries showing the progress on Consent Decree Appendices G and H are provided as Attachments 1 and 2, respectively.

Calendar Quarterly Report – 1st Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

2.0 PROGRESS REPORT ON IMPLEMENTATION OF SECTION V OF THE CONSENT DECREE

A. Section V, Paragraphs 11 and 14: NO_x and CO Emission Reductions from FCCUs

Paragraph 12: SO₂ Emission Reductions from FCCUs

Paragraph 13: PM Emission Reductions from FCCUs

Artesia FCCU (No FCCU at Lovington):

Requirement	CD Paragraph	Status/Comment
Begin baseline period, perform notices of Low- NO _x promoter and optimization study. Baseline period data collection from 1/1/04 – 6/30/04. Optimization period to commence no later than June 30, 2004.	11.B	Requirement completed. The optimization period was completed and the optimized addition rate to be used during the demonstration period was submitted to EPA with supporting documentation on 2/24/05.
Commencement of NO _x Additive Demonstration Period and reporting beginning 3/31/05.	11.D	As agreed between Navajo and EPA, the Demonstration Period ended 05/31/2006. Navajo submitted proposed concentration-based NO _x limits on 07/27/2006.

Calendar Quarterly Report – 1st Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
Install/certify CEMS to monitor FCCU NO _x and O ₂ by 12/31/03.	11.F	CEMS installed and certification RATA performed 11/13/03. Report showing initial certification submitted to NMED on 1/7/04. Pursuant to 40 CFR 60 App F, annual RATA performed 02/14 and 02/15/06. Report showing certification submitted to NMED on 03/15/06. Pursuant to 40 CFR 60 App F, annual RATA performed 01/24/07. Report showing certification submitted to NMED on 02/22/07. Pursuant to 40 CFR 60 App F, annual RATA performed 01/22/08. Report showing certification submitted to NMED on 02/18/08. Pursuant to 40 CFR 60 App F, annual RATA performed 03/03/09. Report showing certification submitted to NMED on 03/30/09. Pursuant to 40 CFR 60 App F, annual RATA performed 03/02/2010 and 03/03/2010. Report showing certification submitted to NMED on 04/05/2010. Pursuant to 40 CFR 60 App F, annual RATA performed 03/01/2011. Report showing certification submitted to NMED on 03/28/2011. Pursuant to 40 CFR 60 App F, annual RATA performed 01/17/2012. Report showing certification submitted to NMED on 02/17/2012. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2013. Report showing certification submitted to NMED on 02/07/2013. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2014. Report showing certification submitted to NMED on 02/04/2014. Annual RATA performed 01/06/2015. Report submitted to NMED on 02/05/2015. Annual RATA performed 01/05/2016. Report submitted to NMED on 02/04/2016. Annual RATA performed 01/03/2017. Report submitted to NMED on 02/04/2017. Annual RATA performed 01/09/2018. Report submitted to NMED on 02/09/2018. Annual RATA performed 02/13/2019. Report submitted to NMED on 03/23/2019. A review of documentation of QC procedures under 40 CFR 60 App. F was recently undertaken. Documentation of all QC procedures in accordance with 40 CFR 60 App. F was completed as of 12/31/2017.

Calendar Quarterly Report – 1st Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
Submit plan to minimize NOx from FCCU during GOHT outages within 180 days of Lodging Date.	11.G	Plan Submitted on 6/18/02. EPA's response letter dated 12/9/04 enumerated the requirements for Navajo to have relief from the short term NOx emission limit.
Install and operate wet gas scrubber on FCCU to meet 25 ppmv (annual avg) and 50 ppmv (7-day) SO ₂ by 12/31/03.	12.B	Wet gas scrubber installed and operational during 4 th Quarter 2003. SO ₂ performance testing completed on 10/16/03; report submitted 1/7/04.

Calendar Quarterly Report – 1st Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
Install and calibrate SO ₂ CEMS in accordance with 40 CFR 60.11, 60.13 and Part 60 App. F	12.D	CEMS installed and certification RATA performed 11/13/03. Report showing initial certification submitted to NMED on 1/7/04. Pursuant to 40 CFR 60 App F, annual RATA performed 02/14 and 02/15/06. Report showing certification submitted to NMED on 03/15/06. Pursuant to 40 CFR 60 App F, annual RATA performed 01/24/07. Report showing certification submitted to NMED on 02/22/07. Pursuant to 40 CFR 60 App F, annual RATA performed 01/22/08. Report showing certification submitted to NMED on 02/18/08. Pursuant to 40 CFR 60 App F, annual RATA performed 03/03/09. Report showing certification submitted to NMED on 03/30/09. Pursuant to 40 CFR 60 App F, annual RATA performed 03/02/2010 and 03/03/2010. Report showing certification submitted to NMED on 04/05/2010. Pursuant to 40 CFR 60 App F, annual RATA performed 03/01/2011. Report showing certification submitted to NMED on 03/28/2011. Pursuant to 40 CFR 60 App F, annual RATA performed 01/17/2012. Report showing certification submitted to NMED on 02/17/2012. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2013. Report showing certification submitted to NMED on 02/07/2013. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2014. Report showing certification submitted to NMED on 02/04/2014. Annual RATA performed 01/06/2015. Report submitted to NMED on 02/05/2015. Annual RATA performed 01/05/2016. Report submitted to NMED on 02/04/2016. Annual RATA performed 01/03/2017. Report submitted to NMED on 02/04/2017. Annual RATA performed 01/09/2018. Report submitted to NMED on 02/09/2018. Annual RATA performed 02/13/2019. Report submitted to NMED on 03/23/2019. See entry for Paragraph 11.F. regarding 40 CFR 60 App. F QC procedures.

Calendar Quarterly Report – 1st Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
WGS shall achieve 1 lb PM per 1000 lb coke burn on 3-hr basis by 12/31/03.	13.B	Wet gas scrubber installed and operational during 4th Quarter 2003. PM testing completed 11/13/03 and report submitted 1/7/04. Results of 0.5-0.6 lb PM per 1,000 lb coke burn compared to <1.0 lb PM per 1,000 lb coke burn standard. Additional testing was performed 3/3/04 following repairs to the scrubber. These test results indicate <0.25 lb PM per 1,000 lb coke burn (i.e., 25% of standard).

Calendar Quarterly Report – 1st Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
Meet 500 ppmv CO on 1-hr basis and 100 ppmv on annual avg. by 12/31/03. Install/Certify CEMS for FCCU CO and O ₂ by 12/31/03.	14.B and 14.C	CO performance testing conducted 10/16/03. CEMS installed and RATA performed 11/13/03. Report showing certification submitted to NMED on 1/7/04. Pursuant to 40 CFR 60 App F, annual RATA performed 02/14 and 02/15/06. Report showing certification submitted to NMED on 03/15/06. Pursuant to 40 CFR 60 App F, annual RATA performed 01/24/07. Report showing certification submitted to NMED on 02/22/07. Pursuant to 40 CFR 60 App F, annual RATA performed 01/22/08. Report showing certification submitted to NMED on 02/18/08. Pursuant to 40 CFR 60 App F, annual RATA performed 03/03/09. Report showing certification submitted to NMED on 03/30/09. Pursuant to 40 CFR 60 App F, annual RATA performed 03/02/2010 and 03/03/2010. Report showing certification submitted to NMED on 04/05/2010. Pursuant to 40 CFR 60 App F, annual RATA performed 03/01/2011. Report showing certification submitted to NMED on 03/28/2011. Pursuant to 40 CFR 60 App F, annual RATA performed 01/17/2012. Report showing certification submitted to NMED on 02/17/2012. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2013. Report showing certification submitted to NMED on 02/07/2013. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2014. Report showing certification submitted to NMED on 02/04/2014. Annual RATA performed 01/06/2015. Report submitted to NMED on 02/05/2015. Annual RATA performed 01/05/2016. Report submitted to NMED on 02/04/2016. Annual RATA performed 01/03/2017. Report submitted to NMED on 02/03/2017. Annual RATA performed 01/09/2018. Report submitted to NMED on 02/09/2018. Annual RATA performed 02/13/2019. Report submitted to NMED on 03/23/2019. See entry for Paragraph 11.F. regarding 40 CFR 60 App. F QC procedures.

Calendar Quarterly Report – 1st Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

B. Section V, Paragraph 15: NSPS Applicability of FCCUs*Artesia FCCU (No FCCU at Lovington):*

Requirements	CD Paragraph	Status/Comment
NSPS becomes applicable to FCCU for SO ₂ , PM, CO and opacity on 12/31/03.	15	Wet gas scrubber installed and operational during 4th Quarter 2003. PM performance testing, initial CEMS certification RATA for SO₂ and CO completed 11/13/03 and report submitted 1/7/04. AMP for opacity submitted 12/31/03; pending written approval. Method 9 readings indicate 0 – 5% opacity. Annual PM testing per AMP was performed 2/8/05 indicating 0.11 lb PM/1000 lb coke. Annual PM testing per AMP was performed 2/15/06 indicating 0.19 lb PM/1000 lb coke. Annual PM testing per AMP was performed 1/24/07 indicating 0.34 lb PM/1000 lb coke. Annual PM testing per AMP was performed 1/22/08 indicating 0.13 lb PM/1000 lb coke. Annual PM testing per AMP was performed 3/3/09 indicating 0.47 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 03/02/2010 and 03/03/2010 indicating 0.54 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 03/01/2011 indicating 0.23 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 01/17/2012 indicating 0.39 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 01/08/2013, which did not show compliance, and again on 3/04/2013 indicating 0.204 lb PM/1000 lb coke burned. Annual PM testing per AMP performed 01/08/2014 indicating 0.71 lb PM/1000 lb coke burned. Report showing certification submitted to NMED on 02/04/2014. Annual PM testing per AMP performed 01/06/2015 indicating 0.11 lb PM/1000 lb coke burned. Report submitted to NMED on 02/05/2015. Annual PM testing per AMP performed 01/05/2016 indicating 0.35 lb PM/1000 lb coke burned. Report submitted to NMED on 02/04/2016. Annual PM testing per AMP performed 01/03/2017 indicating 0.03 lb PM/1000 lb coke burned. Report submitted to NMED on 02/03/2017. Annual PM testing per AMP performed 01/09/2018 indicating 0.50 lb PM/1000 lb coke burned. Report submitted to NMED on 02/09/2018. Annual PM testing per AMP performed 02/13/2019 indicating 0.10 lb PM/1000 lb coke burned. Report submitted to NMED on 03/23/2019.

Calendar Quarterly Report – 1st Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

C. Section V, Paragraph 16: NOx Emissions Reductions from Heaters and Boilers

Requirements	CD Paragraph	Status/Comment
Install NOx control on B-7 by 12/31/02 to meet 0.06 lb/MMBtu and operate CEMS on B-7 for NOx and O ₂ .	16.B.ii. and 16.C.i.	FGR started up on 12/17/2002. CEMS installed and was successfully certified by a RATA performed 12/18/2002. Test results and CEMS indicate B-7 meets NOx control requirement. Pursuant to 40 CFR 60 App F, annual RATA performed 09/26/2006, 09/13/2007, 09/09/2008, 09/17/2009, 08/24/2010, 08/16/2011, 08/15/2012, 08/07/2013. RATA performed 07/30/2014. Certification report submitted to NMED on 09/11/2014. RATA performed 07/23/2015. Certification report submitted to NMED on 08/20/2015. RATA performed 07/13/2016. Certification report submitted to NMED on 08/05/2016. RATA performed 06/21/2017. Certification report submitted to NMED on 07/20/2017. RATA performed 03/06/2018. Certification report submitted to NMED on 03/29/2018. RATA performed 03/19/2019. Certification report submitted to NMED on 04/18/2019.
Install NOx control on B-8 by 12/31/03 to meet 0.06 lb/MMBtu and operate CEMS on B-8 for NOx and O ₂ .	16.B.ii. and 16.C.i.	B-8 began actual initial startup and shakedown period on 7/23/03. NOx controls and CEMS operational. CEMS RATA and B-8 performance testing done 10/29/03. Test report submitted 12/8/03. Pursuant to 40 CFR 60 App F, annual RATA performed 09/26/2006, 09/13/2007, 09/09/2008, 09/17/2009, 08/24/2010, 08/16/2011, 08/15/2012, 08/06/2013, 07/30/2014. RATA was performed 07/29/2014. Certification report submitted to NMED on 09/11/2014. RATA was performed 07/22/2015. Certification report submitted to NMED on 08/20/2015. RATA was performed 07/13/2016. Certification report submitted to NMED on 08/05/2016. RATA performed 06/21/2017. Certification report submitted to NMED on 07/20/2017. RATA performed 03/07/2018. Certification report submitted to NMED on 03/29/2018. RATA performed 03/19/2019. Certification report submitted to NMED on 04/18/2019.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Install next-generation ultra-low NOx control on H-20 and H-601 at Artesia refinery. Performance test H-20 and H-601. Establish compliance indicators by an initial performance test.	16.B.i., 16.C.iii., and Appendix C	H-601 burners installed. Testing conducted on 3/2/04. Report including proposed compliance indicators and permit limits was submitted 5/14/04. H-20 burners installed prior to 12/31/05 deadline and heater resumed operation 12/29/05. H-20 performance test conducted on 02/16/06. Report submitted to NMED on 03/23/06. Permit limit proposed in air permit application submitted to NMED on 4/27/06. NMED issued permit 6/23/06.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Install next-generation ultra-low NOx control on H-101 at Lovington refinery. Operate CEMS or PEMS on H-101 by 12/31/05.	16.B.i., 16.C.ii., and Appendix C	Heater H-101 was removed from service November 2003. Navajo installed NGULNBs in the new Crude Oil Charge Heater (H-103) that replaced H-101. Installation of H-103 was completed during December 2003 turnaround and began operation after 4th Quarter turnaround. As-installed duty of NGULNBs was < 150 MM Btu/hr, but > 100 MM Btu/hr. H-103 initial testing done 03/04/04. Test report, including proposed parametric monitoring plan and permit limits, was submitted 05/14/04. The permit with new limits was approved on 02/21/2006. In 02/2009, Navajo installed eight additional NGULNBs in the Crude Oil Charge Heater (H-103) that replaced H-101. As-installed duty of NGULNBs was > 150 MM Btu/hr, so a NOx CEMS was installed. An initial performance test and the NOx CEMS RATA were conducted 05/21/2009. Pursuant to 40 CFR 60 App F, annual RATA performed 05/20/2010, 08/16/2011, 05/24/2012. RATA was performed 05/14/2013. Certification report submitted to NMED on 06/10/2013. RATA was performed 05/13/2014. Certification report submitted to NMED on 06/12/2014. RATA was performed 05/06/2015. Certification report submitted to NMED on 06/04/2015. RATA was performed 05/04/2016. Certification report submitted to NMED on 06/03/2016. RATA was performed 04/25/2017. Certification report submitted to NMED on 05/16/2017. RATA was performed 02/14/2018. Certification report submitted to NMED on 03/14/2018. RATA was performed 03/05/2019. Certification report submitted to NMED on 04/08/2019. Based on a review, not all QC procedures for heaters and boilers with CEMS may be documented in accordance with 40 CFR 60 App. F. The 4th quarter 2017 Consent Decree progress report inadvertently cross-referenced the entry for Paragraph 11.F. (pertaining to the FCCU) and did not explain that QC procedures for heaters and boilers with CEMS may not have been fully documented. A review of documentation of QC procedures under 40 CFR 60 App F was undertaken. A draft QA/QC manual was prepared and was finalized in January 2019.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Install next-generation ultra-low NOx control on H-600 and 70-H1/H2/H3 at Artesia refinery. Performance test H-600, and 70-H1/H2/H3. Establish compliance indicators by 12/31/09.	16.B.i., 16.C.iii., and Appendix C	H-600: Air permit 0195-M25-R3 authorizing the burner retrofit was issued by NMED on 05/14/08. The retrofit was completed in 02/2009. The performance test was conducted 03/04/09 and the test report submitted 03/30/09. Administrative permit revision 0195-M26-R1 effective 04/14/2009. 70-H1/H2/H3: NGULNBs were installed in CCR Heaters 70-H1/H2/H3 in May 2006 and heaters resumed operation on 6/2/06. Performance test conducted 7/11/06 and test report submitted 8/15/06. An application for a proposed permit limit was submitted to NMED 9/28/06. NMED issued permit PSD-NM-0195-M25 on 12/14/2007.
Install next-generation ultra-low NOx control on B-SG-1101A and B-SG-1101B at Lovington refinery by 12/31/09. Conduct performance test B-SG-1101A and B-SG-1101B and establish compliance indicators.	16.B.i., 16.C.iii., and Appendix C	An air permit application proposing the installation of NGULNBs in SG-1101A and SG-1101B was submitted to NMED on 12/21/2007. Permit 0273-M7 authorizing the retrofit with NGULNBs was issued by NMED on 05/06/2008. Navajo subsequently decided to replace the existing boilers with new boilers using NGULNBs. Permit 0273-M7-R1 authorizing the replacement boilers was issued by NMED on 10/14/2009. Boiler SG-110B was permanently shut down on 12/05/2009. Its replacement, BO-1104, began operation on 12/17/2009. Initial performance testing was conducted 01/28/2010 on BO-1104 and the report submitted to NMED on 02/24/2010. Because of initial operating problems with BO-1104, the second boiler, SG-1101A was not permanently shut down until 01/04/2010. Its replacement, BO-1105, began operation on 01/15/2010. Initial performance testing was conducted 01/26/2010 on BO-1105 and the report submitted to NMED on 2/24/2010. The BO-1105 initial performance test was conducted on 1/26/2010, and the report submitted to the AQB on 02/24/2010. The BO-1104 initial performance test was conducted on 01/28/2010, and the report submitted to the AQB on 02/24/2010. The burners installed with BO-1105 and BO-1104, were subsequently found to not meet the NGULNB performance specification in the Consent Decree. The installation of NGULNB in BO-1105 was completed 06/20/2013. The installation of BO-1104 NGULNB was completed 07/29/2013. BO-1105 NOx Performance Test was completed 07/12/2013 and the results were submitted to NMED on 08/06/2013. BO-1104 NOx Performance Test was completed 09/04/2013 and the results were submitted to NMED on 12/05/2013.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Submit proposed NOx permit limits within 120 days of NOx control technology installation.	16.D	Requirement completed. B-7: Proposed B-7 NO_x limit submitted to NMED 01/31/03. B-8: Proposed B-8 NO_x limit submitted to NMED 12/8/03. H-601: Proposed H-601 NO_x limit submitted 5/14/04 in stack test report and permitted in 195-M17 as issued 12/15/04. H-103 (Lovington Refinery): Proposed H-103 NO_x limit submitted 5/14/04 in stack test report; on 2/21/06 NMED issued 0273-M4 to add the NO_x limit. After installing additional NGULNBs in 02/2009, the limits were confirmed in the 05/21/2009 test and included in Permit 0273-M7-R1 issued by NMED on 10/14/2009. H-20: Proposed H-20 NO_x limit submitted to NMED in air permit application on 04/27/06; permit 0195-M24 issued 06/23/06. 70-H1/H2/H3: Proposed 70-H1/H2/H3 NO_x limit submitted to NMED in air permit application on 09/28/06; permit PSD-NM-0195-M25 issued 12/14/2007. H-600: Proposed H-600 NO_x limit authorized by NMED air permit administrative revision effective on 04/14/09. BO-1104 and BO-1105: (replacement boilers for B-SG-110A and B-SG-1101B). Proposed BO-1104 and BO-1105 NO_x limits submitted to NMED in air permit application on 04/13/2010; permit 0273-M8 issued 07/19/2010.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Submit annual progress report on NOx control technology	16.E	First report was submitted 12/19/02. The report for 2003 was submitted 12/29/03 with supplemental information provided 1/8/04. 2004 report submitted 12/31/2004. 2005 report submitted 12/31/2005. 2006 report submitted 12/11/2006. 2007 report submitted 12/20/2007. 2008 report submitted 12/19/2008. 2009 report submitted 12/28/2009. 2010 report submitted 12/15/2010. 2011 report submitted 12/31/2011. 2012 report submitted 12/11/2012. 2013 report submitted 12/18/2013. 2014 report submitted 12/19/2014. 2015 report submitted 12/31/2015. 2016 report submitted 12/30/2016 2017 report submitted 12/28/2017. 2018 report submitted 12/27/2018.
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D. Section V, Paragraph 17: SO₂ Emissions Reductions from Heaters and Boilers and NSPS Applicability

Requirements	CD Paragraph	Status/Comment
NSPS Subparts A and J become applicable to Heaters and Boilers by Date of Lodging.	17.B	Commenced 12/20/01 See entry for Paragraph 16.B.i., 16.C.ii., and Appendix C on p. 12 of this report regarding 40 CFR 60 App. F QC procedures.

E. Section V, Paragraphs 18 and 19: NSPS Applicability for SRP and Flaring Devices

Requirements	CD Paragraph	Status/Comment
SRP shall comply with NSPS J limit and monitor tail gas emissions by Date of Lodging.	18.C.i. and 18.C.ii.	Commenced 12/20/01. See entry for Paragraph 11.F. regarding 40 CFR 60 App. F QC procedures.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
NSPS Subparts A and J become applicable to Flares by Date of Lodging.	Appendix E	Commenced 12/20/01. The recent implementation of flare monitoring requirements under NSPS Ja resulted in the identification and repair of several relief valves that were leaking to the flare. In addition, three flare gas streams with higher sulfur levels were identified as routed to the Lovington flare. These three streams were rerouted to the fuel gas system. As of November 11, 2015, all gas streams currently routed to the flares are monitored for compliance with the NSPS Ja requirements. Excess emission information for the flares at Artesia and Lovington for the semiannual period: January-June 2016 was included in Attachment 4 to the 3rd quarter 2016 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2016 was included in the semiannual NSPS monitoring report submitted on January 30, 2017, and was attached to the 1st quarter 2017 Consent Decree Progress Report. Excess emission information for events occurring during the semiannual period: January-June 2017 was included in the semiannual NSPS Ja monitoring report submitted on July 28, 2017, and was attached to the 3rd quarter Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2017 was included in the semiannual NSPS monitoring report submitted on January 30, 2018, and was attached to the 1st quarter 2018 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: January-June 2018 was included in the semiannual NSPS monitoring report submitted on July 30, 2018, and was attached to the 3rd quarter 2018 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2018 was included in the NSPS monitoring report submitted on January 30, 2019, and is attached to this 1st quarter Consent Decree Progress Report.
Submit AMP plan for Flares FL-400, FL-401, FL-402 and FL-403 within 90 days of Lodging Date.	Appendix E	Submitted 3/19/02.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
NSPS Subparts A and J become applicable to Flare FL-1001 at Lovington refinery on 12/31/06.	Appendix E	Off-Gas Scrubber system for sweetening sour LPG before combusting in flare completed by 12/31/06.
Submit AMP plan for Flare FL-1001 at Lovington refinery by 7/30/07.	Appendix E	An approvable AMP was submitted 02/14/07. AMP is pending EPA approval.
Submit enhanced Maintenance and Operation plan for SRP (PMO plan) within 270 days of Date of Lodging.	18.D	Plan submitted on 9/16/02 and updated on 03/24/05. The last revision was completed on 09/2017
Begin optimization study on SRP by 1/1/04.	18.E	Study commenced by 1/1/04 deadline.
Complete optimization study on SRP and report results by 12/31/04.	18.E	Navajo retained a third party to coordinate performance testing for the optimization study and prepare a report which was submitted to EPA on 12/31/04.
10-day prior notice required for scheduled Duke Energy shutdowns affecting Lovington refinery by Date of Lodging.	19.E	Commenced 12/20/01.

F. Section V, Paragraphs 20 and 21: Control of Acid Gas Flaring, Tail Gas Incidents and Hydrocarbon Flaring

Requirements	CD Paragraph	Status/Comment
Perform root cause analyses for acid gas and tail gas incidents beginning on Lodging Date.	20	Commenced 12/20/01.
Perform root cause analyses for hydrocarbon flaring incidents beginning on Lodging Date.	21	Commenced 12/20/01.

G. Section V, Paragraph 22: Benzene Waste NESHAP

Requirements	CD Paragraph	Status/Comment
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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Complete Phase One of the review and verification of the TAB by 9/16/02.	22.C.i.	Completed 09/11/02.
Submit BWN Phase One Compliance Review and Verification report for EPA approval by 10/16/02.	22.C.i.	Report of results submitted on 10/09/02.
Submit amended TAB report if BWN Compliance Review shows reporting applied.	22.D.i.	Amended TAB report was included in the 10/09/02 submittal.
Establish annual review program	22.E	Completed as part of Phase One review and is now ongoing.
Train employees who conduct sampling.	22.G and 22.M.ii.a(1)	A training plan was developed on 12/06/02 for the Artesia Refinery (i.e., since its TAB is greater than 1.0 Mg/yr). The first training session was held 01/07/03 at both the Artesia and Lovington refineries. The second training session for the two refineries was held 1/27/04 and 01/28/04. Annual refresher training for the two refineries was performed the weeks of 02/08/05, 03/27/06, 03/05/07, 02/25/08 (Lov), 11/07/08 (Art), 12/18/09, 12/17/10 and 12/20/2011. BWON TAB training was conducted on at the Artesia and Lovington refineries on 11/08/2012 01/14/2013 and 04/18/2013, 11/12 to 11/14/2013, 05/24/2014, 06/22/2014, 12/12/2014, 3/16/2015, 4/1/2015, 5/15/2015, 2/29/2016, 3/8/2016, 3/17/2016, 09/25/2017, 11/08/2018, and 11/12/2018.
Submit schematics of Waste/Slop/Off-Spec Oil Management by 03/20/02.	22.H.i.	Submitted on 03/19/02. Revised schematics reflecting NSPS QQQ were submitted 04/29/04. Schematics are awaiting approval by EPA.
Conduct annual sampling of waste streams which the BWN Compliance Review and Verification Report showed to be 0.05 Mg/yr or greater.	22.J.i. and 22.M.ii.a(2)	The annual sampling was performed in February 2005. The results were in Attachment 4 to the first quarter 2005 report. Annual sampling performed in February 2006. The results were in Attachment 4 of the first quarter 2006 report. Annual sampling was performed in September and December 2007. The results were submitted in attachment 4 of the first quarter 2008 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2008. The results were in attachment 4 of the first quarter 2009 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2009. The results were submitted in attachment 4 of the first quarter 2010 report as required by

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
		¶22.M.ii.a(2). Annual sampling was performed in December 2010. The results were in attachment 4 of the first quarter 2011 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2011. The results are in Attachment 4 of the first quarter 2012 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2012. The results were submitted in Attachment 4 of the first quarter 2013 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2013. The results were submitted in Attachment 4 of the first quarter 2014 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2014. The results were submitted in Attachment 4 of the 1st quarter 2015 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2015. The results were included in Attachment 4 of the 1st quarter 2016 report as required by ¶22.M.ii.a(2). Annual sampling was performed in October 2016. The results were included in Attachment 4 of the 1st quarter 2017 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2017. The results were included in Attachment 4 and 7 of the 1st quarter 2018 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2018. The results are included in this 1st quarter 2019 report as required by ¶22.M.ii.a(2).
Meet with NMED and EPA at the refinery and submit an annual end of line (EOL) sampling plan – applicable to Artesia Refinery (i.e., TAB is equal to or greater than 1 Mg/yr but less than 10 Mg/yr).	22.J.ii	Navajo was notified by NMED and EPA via email dated 12/9/02 that the ¶22.J.ii visit by the agencies would not occur. Navajo met the deadline by submitting the EOL sampling plan on 2/6/03. Conditional approval of the plan was received from EPA by letter dated 1/23/04. Navajo responded by submitting a revised EOL sampling plan by letter dated 3/31/04.

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Requirements	CD Paragraph	Status/Comment
Conduct quarterly EOL sampling and submit the results to EPA in quarterly report.	22.J.iii. and 22.M.ii.a(3)	These requirements are not applicable until EPA approves the sampling plan. Although EPA has not approved or commented on the revised sampling plan submitted 03/31/2004, Navajo conducted its first EOL sampling during the week of 3/22/2004. The EOL benzene quantity (BQ) for the fourth quarter of 2004 was 0.8 Mg (projected annual < 10 Mg). The annual TAB, submitted 4/05 was 4.9 Mg for Artesia and 1.5 Mg for Lovington. The 1st, 2nd, 3rd, and 4th quarter 2005 EOL BQs were each <2.5 Mg. The 1st, 2nd, 3rd, and 4th quarter 2006 EOL BQs were each <2.5 Mg. The 1st, 2nd, and 3rd quarter 2007 EOL BQs were each <2.5 Mg. The 4th quarter 2007 EOL BQ result was greater than 2.5 Mg, but the projected 2007 TAB was < 10 Mg. The 1st quarter 2008 EOL BQ result was less than 2.5 Mg. The 2nd and 3rd quarter 2008 EOL BQ results were both greater than 2.5 Mg. The EOL BQ for the 4th quarter of 2008 was <2.5 Mg and the projected 2008 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2009 was <2.5 Mg and the projected 2009 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2010 was <2.5 Mg and the projected 2010 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2011 was <2.5 Mg and the projected 2011 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2012 were each <2.5 Mg and the projected 2012 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2013 were each <2.5 Mg and the projected 2013 TAB was <10 Mg/yr. The projected 2013 TAB was < 10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2014 were each <2.5 Mg and the projected 2014 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2015 were <2.5 Mg and the projected TAB for 2015 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2016 exceeded 2.5 Mg. As required by paragraph 22.J.iv, Navajo submitted a plan with the fourth quarter Consent

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Requirements	CD Paragraph	Status/Comment
		Decree report that identified the specific actions to be taken and the schedule for such actions to ensure that the TAB does not exceed 10 Mg in the calendar year. The EOL BQ for the 4th quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2019 was <2.5 Mg and the projected TAB for 2019 was <10 Mg/yr.

H. Section V, Paragraph 23: LDAR

Requirements	CD Paragraph	Status/Comment
Develop and maintain written facility-wide LDAR compliance program by 04/19/02.	23.A	Completed before 4/19/02.
LDAR Training within 1 year of Date of Lodging.	23.B	Newly assigned personnel (both 3 rd party and Navajo) are receiving training. On going training programs have been implemented.
Perform initial LDAR 3 rd party/internal audits by 12/20/02 and correct deficiencies. Repeat audits every two years.	23.C and 23.D	3rd party audits for Artesia and Lovington were conducted on 10/2002 and deficiencies were corrected per Paragraph 23.D. 3rd party audits for Artesia and Lovington were performed during 12/2004, 01/2007, 01/2009, and 01/2011. The Artesia and Lovington refineries underwent maintenance turnaround from January to March, 2013. The 2013 LDAR 3rd party audit was conducted from 09/16 to 09/20/2013, after the refinery was back online and normal operation data

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Requirements	CD Paragraph	Status/Comment
		had been collected for 1 complete quarter for comparative monitoring. A copy of the 2013 LDAR 3 rd party audit report and resolutions were submitted in Attachment 5 of the 1 st Quarter 2014 report. 3 rd party audits for Artesia and Lovington were performed during the week of October 5 th to 9 th , 2015. A copy of the 2015 LDAR 3 rd party audit report and resolutions are included in Attachment 5 of the 1 st Quarter 2016 report. The 2017 LDAR 3 rd party audit was conducted from 05/17 to 05/18/2017. A copy of the audit report was attached to the 3 rd Quarter 2017 Consent Decree Progress Report. The audit resolutions were included as Attachment 5 to the 1 st Quarter 2018 report.
Valves use 500 ppm leak definition by 2 years after Date of Lodging	23.E.i.	Completed prior to 12/20/03.
NSPS Subpart GGG becomes applicable to FCCU wet gas compressor on 12/31/03.	23.E.iii	Compressor seal system was upgraded during 2003 FCCU turnaround. Operational beginning December 2003.
Pump monitoring using internal leak definition of 2,000 ppm in accordance with phased-in schedule – i.e., 50% by 6/20/03, 85% by 12/20/03, and 100% by 4/20/05	23.E.ii.a., b., and c.	List of pumps comprising >85% was developed and these pumps are using the 2,000 ppm leak definition for all monitoring subsequent to 12/20/03. All pump monitoring using internal leak definition of 2,000 ppm after 4/20/05.
NSPS Subpart GGG becomes applicable to Crude vent compressor at Lovington refinery as of Date of Lodging.	23.E.iii	This was completed upon CD lodging. Crude Vent Compressor (C-150A/B) is now included in the LDAR monitoring program.
First attempt at repairs on valves that have VOC reading > 200 ppm within 90 days of Lodging Date.	23.G	Commenced with January 2002 quarterly monitoring.
Quarterly monitoring of valves - no Skip Period by Date of Lodging.	23.H.ii.	Completed by 12/20/01.
LDAR database to include date, time, operator, and instrument within 6 months of Date of Lodging.	23.I.i.	Commenced with May 2002 monitoring.
Submit operational specifications designed to minimize non-electronic data collection and transfer within	23.I.ii., and 23.O.i.b.	Submitted 6/19/02.

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Requirements	CD Paragraph	Status/Comment
6 months of Date of Lodging		
Develop/ implement procedure for LDAR data QA/QC within 90 days of Lodging Date.	23.J	Procedure developed on 3/19/02 and included as an appendix in the written LDAR program.
Establish accountable LDAR personnel by Date of Lodging.	23.K	Completed by 12/20/01.
Establish tracking program for adding new pumps and valves to LDAR program within 120 days of Date of Lodging	23.L	This program was established by 4/19/02 and is described in the written LDAR program.
Conduct calibration/drift assessments of monitoring instruments at the end of each shift by the Date of Lodging.	23.M	Commenced on 12/20/01.
More stringent delay of repair requirements including drill and tap for valves reading >10,000 ppm by Date of Lodging.	23.N.ii.	Commenced on 12/20/01.
Submit written facility-wide LDAR compliance program by 5/19/02.	23.O.i.a.	Submitted 05/13/2002.
Submit LDAR report with MACT Periodic reports.	23. O.ii.c.	The monitoring results were incorporated into the periodic reports submitted pursuant to 40 CFR 63.654 on: 3/15/02, 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/06/06 for Lovington), 3/16/07, 09/14/07, 3/17/08, 9/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011, 03/09/2012 and 09/06/2012 (09/06/2012 for Lovington), 03/15/2013, 09/16/2013, 02/25/2014 (Artesia), 08/26/2014 (Lovington), 02/26/2015 (Artesia and Lovington), 08/27/2015 (Artesia and Lovington), 02/18/2016 (Artesia and Lovington), 08/29/2016 (Artesia and Lovington), 02/28/2017 (Artesia and Lovington), 08/29/2017 (Artesia and Lovington), 08/30/2018 (Artesia and Lovington), and 02/28/2019 (Artesia and Lovington).

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I. Section V, Paragraph 24: Incorporate CD Requirements into Enforceable Permits

Requirements	CD Paragraph	Status/Comment
Within 180 days of Date of Lodging, submit an application for Federally enforceable NSR permit to incorporate of limits, standards, or schedules effective on the Date of Lodging.	24.A	Applications to revise the NSR permits for the Artesia and Lovington refineries were submitted 5/28/02. Permit revision issued for Lovington on 10/15/03. Permit revision for Artesia issued 12/15/04.
Submit applications within 30 days of the effective date or establishment of limits, standards, or schedules pursuant to the CD.	24.B	Navajo's understanding is that ¶16 NOx limits for boilers and heaters, which require permit application filing within 120 days after start-up under ¶16.D, are not subject to ¶24.B. No other limits under Section V have occurred to date.

Section V, Paragraph 25: Obtaining Construction Permits

Requirements	CD Paragraph	Status/Comment
Utilize best efforts to obtain construction permits to implement control projects required by the CD.	25	Requirement Completed. The 5/28/02 NSR permit revision application for the Artesia refinery represented the installation of the FCCU wet gas scrubber. Navajo submitted an application to NMED on 4/9/03 to install a new crude heater (H-103) at the Lovington refinery. The permit was issued 10/15/03. H-103 began operation in 12/03. Since heater H-103 replaced H-101 (i.e., the existing crude heater which requires burner retrofit by 12/05 under the CD) and uses NGULNBs, this effectively achieves early implementation of the NOx emission reductions sought by the CD. In order to retrofit heater H-20 with NGULNB by 12/31/05, Navajo submitted a significant revision air permit application to NMED on 04/12/05. Since NMED had not completed the application review, a waiver allowing limited construction activities to begin was granted on 10/11/05. Permit 0195-M21, authorizing NGULNB for H-20, was issued by NMED on 11/18/05. An air permit application proposing the installation of NGULNBs in BO-1105 (formerly SG-1101A) and BO-1104 (formerly SG-1101B) was submitted to NMED on 12/21/2007. Permit 0273-M7 authorizing

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Requirements	CD Paragraph	Status/Comment
		the NGULNBs in SG-1101A and SG-1101B was issued by NMED on 05/06/2008. Navajo subsequently decided to replace the existing boilers with new boilers using NGULNBs. Permit 0273-M7-R1 authorizing the replacement boilers was issued by NMED on 10/14/2009. The installation of NGULNB in BO-1105 was completed 06/20/2013. The installation of BO-1104 NGULNB was completed 07/29/2013. H-600: Air permit 0195-M25-R3 authorizing the burner retrofit was issued by NMED on 05/14/08. The retrofit was completed in 02/2009.

3.0 SUMMARY OF ANTICIPATED PROBLEMS IN IMPLEMENTING THE REQUIREMENTS OF SECTION V.

None at this time.

4.0 SUMMARY OF EMISSIONS DATA

- The Boiler B-7 initial performance stack test and CEMS RATA was conducted on 12/18/2002 and the results submitted to the NMED on 01/31/2003.
- The Boiler B-8 initial performance stack test and CEMS RATA was conducted on 10/29/2003 and the results submitted to the NMED on 12/08/2003.
- The Heater H-601 initial performance stack test was conducted on 03/02/2004 and the results were submitted to the NMED on 05/14/2004.
- The Heater H-103 (replacement for H-101) initial performance stack test was conducted on 03/04/2004 and the results were submitted to the NMED on 05/14/2004.
- Data was collected for reporting pursuant to Paragraph 11 (e.g., FCCU NO_x optimization and demonstration period data.) NO_x Additive Demonstration Period report with proposed NO_x concentration-based limits submitted 07/27/2006.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on February 14 and 15, 2006 and the results were submitted to the NMED on 03/15/2006.
- The FCCU Regenerator Scrubber annual PM test was conducted on 02/15/2006 and the results were submitted to the NMED on 03/15/2006.
- Heater H-20 was retrofit with NGULNBs in December 2005. A performance stack test was conducted on 02/16/2006 and the results were submitted to the NMED on 03/23/2006.
- Heaters H-352, H-353, and H-354 (formerly identified as 70-H1/H2/H3) were retrofit with NGULNBs in June 2006. A performance stack test was conducted on 07/11/2006 and the results were submitted to the NMED on 08/15/2006.
- The Boiler B-7 and Boiler B-8 annual CEMS RATAs were conducted on 09/26/2006 and the results submitted to the NMED on 10/17/2006.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/24/2007 and the results were submitted to the NMED on 02/22/2007.
- The FCCU Regenerator Scrubber annual PM test was conducted on 01/24/2007 and the results were submitted to the NMED on 02/22/2007.

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- The Heater H-20 annual performance stack test was conducted on 01/25/2007 and the results were submitted to the NMED on 02/22/2007.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 09/13/2007 and 09/12/2007 respectively, and the results submitted to the NMED on 10/11/2007.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/22/2008 and the results were submitted to the NMED on 02/18/2008.
- The FCCU Regenerator Scrubber annual PM test was conducted on 01/22/2008 and the results were submitted to the NMED on 02/18/2008.
- The Heater H-20 annual performance stack test was conducted on 01/23/2008 and the results were submitted to the NMED on 02/18/2008.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 09/09/2008 and the results submitted to the NMED on 10/09/2008.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 03/03/2009 and the results were submitted to the NMED on 03/30/2009.
- The FCCU Regenerator Scrubber annual PM test was conducted on 03/03/2009 and the results were submitted to the NMED on 03/30/2009.
- Heater H-600 was retrofit with NGULNBs in 02/2009. The Heater H-600 initial performance stack test was conducted on 03/04/2009 and the results were submitted to the NMED on 03/30/2009.
- The Heater H-20 annual performance stack test was conducted on 03/05/2009 and the results were submitted to the NMED on 03/30/2009.
- After adding additional burners, the Heater H-103 (replacement for H-101) performance stack test and NOx CEMS RATA was conducted on 05/21/2009 and the results were submitted to the NMED on 06/22/2009.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 09/17/2009 and the results submitted to the NMED on 10/14/2009.
- The BO-1105 (replacement boiler for Lovington boiler BSG-1101A) initial performance testing was conducted 01/26/2010 and the report submitted to NMED on 02/24/2010.
- The BO-1104 (replacement boiler for Lovington boiler BSG-1101B) initial performance testing was conducted 01/28/2010 and the report submitted to NMED on 02/24/2010.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 03/02 and 03/2010 and the results were submitted to the NMED on 04/05/2010.
- The FCCU Regenerator Scrubber annual PM test was conducted on 03/02 and 03/2010 and the results were submitted to the NMED on 04/05/2010.
- The Heater H-20 annual performance stack test was conducted on 03/04/2010 and the results were submitted to the NMED on 04/05/2010.
- The Heater H-103 (replacement for H-101) NOx CEMS RATA was conducted on 05/19/2010 and 05/20/2010, and the results were submitted to the NMED on 06/16/2010.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 08/24/2010 and the results submitted to the NMED on 09/14/2010.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 03/01/2011 and the results were submitted to the NMED on 03/28/2011.
- The FCCU Regenerator Scrubber annual PM test was conducted on 03/01/2011 and the results were submitted to the NMED on 03/28/2011.
- The Heater H-20 annual performance stack test was conducted on 03/02/2011 and the results were submitted to the NMED on 03/28/2011.
- The Boiler B-7and Boiler B-8 annual CEMS RATA's were conducted on 08/16/2011 and the results submitted to the NMED on 09/16/2011.

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- The Heater H-103 (replacement for H-101) NOx CEMS RATA was conducted on 05/3/2011 and the results were submitted to the NMED on 05/31/2011.
- The Heater H-20 annual performance stack test was conducted on 01/19/2012 and the results were submitted to the NMED on 02/27/2012.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/17/2012. Report showing certification submitted to NMED on 02/17/2012.
- The FCCU Regenerator Scrubber annual PM test was conducted on 01/17/2012. Report showing certification submitted to NMED on 02/17/2012.
- The Heater H-103 (replacement for H-101) NOx CEMS RATA was conducted on 05/24/2012, and the results were submitted to the NMED on 06/20/2012.
- The Boiler B-7 and Boiler B-8 annual CEMS RATA's were conducted on 08/15/2012 and the results submitted to the NMED on 09/13/2012.
- The Heater H-20 annual performance stack test was conducted on 01/09/2013 and the results were submitted to the NMED on 02/07/2013.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/08/2013. Report showing certification submitted to NMED on 02/07/2013.
- The FCCU Regenerator Scrubber annual PM test was conducted on 01/08/2013. Report showing certification submitted to NMED on 02/07/2013.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/14/2013, and the results were submitted to the NMED on 06/10/2013.
- The FCCU Regenerator Scrubber annual PM was retested on 03/05/2013. Report showing certification submitted to NMED on 04/01/2013.
- The Boiler B-7 annual CEMS RATA's was conducted on 08/07/2013 and the results submitted to the NMED on 09/17/2013.
- The Boiler B-8 annual CEMS RATA's was conducted on 08/06/2013 and the results submitted to the NMED on 09/17/2013.
- The Heater H-20 annual performance stack test was conducted on 01/09/2014 and the results were submitted to the NMED on 02/04/2014.
- The FCCU Regenerator Scrubber annual PM was tested on 01/08/2014. Report showing certification submitted to NMED on 02/04/2014.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/08/2014. Report showing certification submitted to NMED on 02/04/2014.
- After the installation of NGULNB was completed, the BO-1105 (replacement boiler for Lovington boiler BSG-1101A) initial performance testing was conducted 07/12/2013 and the report submitted to NMED on 08/06/2013.
- After the installation of NGULNB was completed, the BO-1104 (replacement boiler for Lovington boiler BSG-1101B) initial performance testing was conducted 09/04/2013 and the report submitted to NMED on 12/05/2013.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/13/2014, and the results were submitted to the NMED on 06/12/2014.
- The Boiler B-7 annual CEMS RATA's was conducted on 07/30/2014 and the results submitted to the NMED on 09/11/2014.
- The Boiler B-8 annual CEMS RATA's was conducted on 07/29/2014 and the results submitted to the NMED on 09/11/2014.
- The Heater H-20 annual performance stack test was conducted on 02/17/2015 and the results were submitted to the NMED on 03/09/2015.
- The FCCU Regenerator Scrubber annual PM was tested on 01/06/2015. Report showing certification submitted to NMED on 02/05/2015.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/06/2015. Report showing certification submitted to NMED on 02/05/2015.

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- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/06/2015, and the results were submitted to the NMED on 06/04/2015.
- The Boiler B-7 annual CEMS RATA's was conducted on 07/23/2015 and the results submitted to the NMED on 08/20/2015.
- The Boiler B-8 annual CEMS RATA's was conducted on 07/22/2015 and the results submitted to the NMED on 08/20/2015.
- The Heater H-20 annual performance stack test was conducted on 01/07/2016 and the results were submitted to the NMED on 02/05/2016.
- The FCCU Regenerator Scrubber annual PM was tested on 01/05/2016. Report showing certification submitted to NMED on 02/04/2016.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/05/2016. Report showing certification submitted to NMED on 02/04/2016.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/04/2016, and the results were submitted to the NMED on 06/03/2016.
- The Boiler B-7 annual CEMS RATA's was conducted on 07/13/2016 and the results submitted to the NMED on 08/05/2016.
- The Boiler B-8 annual CEMS RATA's was conducted on 07/13/2016 and the results submitted to the NMED on 08/05/2016.
- The Heater H-20 annual performance stack test was conducted on 01/05/2017 and the results were submitted to the NMED on 02/03/2017.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/03/2017. Report showing certification submitted to NMED on 02/03/2017.
- The FCCU Regenerator Scrubber annual PM was conducted on 01/03/2017. Report showing certification submitted to NMED on 02/04/2017.
- The Boiler B-7 annual CEMS RATA's was conducted on 06/21/2017 and the results submitted to the NMED on 06/20/2017.
- The Boiler B-8 annual CEMS RATA's was conducted on 06/21/2017 and the results submitted to the NMED on 06/20/2017.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 04/25/2017, and the results were submitted to the NMED on 05/16/2017.
- The Heater H-20 annual performance stack test was conducted on 01/11/2018 and the results were submitted to the NMED on 02/09/2018.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/09/2018. Report showing certification submitted to NMED on 02/09/2018.
- The FCCU Regenerator Scrubber annual PM stack test was conducted on 01/09/2018. Report showing certification submitted to NMED on 02/09/2018.
- The Boiler B-7 annual CEMS RATA's was conducted on 03/06/2018 and the results submitted to the NMED on 03/29/2018.
- The Boiler B-8 annual CEMS RATA's was conducted on 03/07/2018 and the results submitted to the NMED on 03/29/2018.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 02/14/2018, and the results were submitted to the NMED on 03/14/2018.
- The Heater H-20 annual performance stack test was conducted on 02/20/2019 and the results were submitted to the NMED on 03/21/2019.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 02/13/2019. Report showing certification submitted to NMED on 03/23/2019.
- The FCCU Regenerator Scrubber annual PM stack test was conducted on 02/13/2019. Report showing certification submitted to NMED on 03/23/2019.
- The Boiler B-7 annual CEMS RATA's was conducted on 03/19/2019 and the results submitted to the NMED on 04/18/2019.

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- The Boiler B-8 annual CEMS RATA's was conducted on 03/19/2019 and the results submitted to the NMED on 04/18/2019.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 03/05/2019, and the results were submitted to the NMED on 04/08/2019.

Consistent with past reports, any emissions excursions from Consent Decree limits have generally been reported to NMED pursuant to the NSPS, MACT and/or Title V programs semiannually (as well as pursuant to NMED's excess emissions reporting program). We are in this report identifying emissions excursions that occurred in the 4th quarter 2018 for the emission limits and units below. For the flares at Artesia and Lovington, excess emission information for events occurring during the semiannual period: July-December 2018 was included in the semiannual NSPS Ja monitoring report submitted on January 30, 2019, and is attached to this 1st quarter Consent Decree Progress Report.

Consent Decree Condition V.18.B: SRU SO₂ Emission limits

SRU-2

SO2 250 ppm 12-hr average		
Start Time	End Time	Excess Emissions per Event (lbs)
2019-01-05 10:00	2019-01-05 12:00	0.47
2019-01-05 13:00	2019-01-05 14:00	0.16
2019-01-21 21:00	2019-01-22 09:00	14.40
2019-01-26 15:00	2019-01-27 03:00	22.31
2019-01-28 17:00	2019-01-29 03:00	9.84
2019-03-12 20:00	2019-03-13 15:00	76.60

5. Implementation of ENVIRONMENTALLY beneficial Projects

[Changes from Prior Quarter Italicized]

Paragraph 35 requires certain information to be submitted for each project which has been completed. The projects for Paragraphs 30 and 32 have been completed. The following summarizes the status of the completed and ongoing projects, and highlights actions taken thus far:

A. Section V, Paragraph 29: Refinery-wide Compliance with NSPS Subpart QQQ

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Submit Compliance Plan within 180 days of CD Date of Lodging.	29.A	The plan was submitted on May 29, 2002

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Environmentally Beneficial Project	CD Paragraph	Status/Comment
NSPS QQQ becomes applicable to Artesia and Lovington individual drain systems, oil-water separators, and aggregate facilities by 12/31/03	29.B	Prior to 12/31/03, Navajo began operation of the new covered wastewater separator, completed the bypass of the South Plant API, installed covers on junction boxes and initiated drain inspections for the Artesia refinery. Junction boxes at the Lovington refinery were also covered and the routine inspection of drains (to assure proper water seal) was begun. Navajo otherwise ceased the use of an open culvert for draining oily process wastewater into the sewer. In early September 2010, it was discovered that the storm water catch basin of the Alkylolation Unit Tar Pit could still receive some oily-water and therefore could be considered as a junction box. A cover for the storm water basin was designed, constructed, and installed by 11/12/2010. In July 2014, it was discovered that visual inspections were not conducted initially and semiannually as required by 40CFR 60.692-2 (07/11/2014 self-disclosure letter to NMED. Certified Receipt Number: 70073020000030288246). Navajo Started semiannual inspections on 07/01/2015. A third party review of the QQQ program indicated that there may be a potential issue regarding certain aspects of the drain systems at the refinery, in particular, the status of catch basins in these drain systems. Subpart QQQ exempts drain systems that have catch basins in their existing configuration prior to the rule's applicability date. Navajo is nevertheless evaluating the proactive retrofit of these catch basins with covers (inserts), and has initiated a capital project to address this. Retrofit work is currently scheduled to begin shortly.

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B. Section V, Paragraph 30: Operation of the 40 LTPD SRU (SRU1) on Standby
Artesia SRP (No SRU at Lovington):

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Complete installation of equipment on SRU1 to allow operation in standby service by 12/31/03	30	SRU1 was started up again on 5/10/03 operating at a reduced rate in backup service. A new 100 long ton per day sulfur recovery unit (SRU3) began operating 05/11/2009. The combined capacity of SRU2 and SRU3 provides excess sulfur recovery capacity. Therefore, as an energy and emissions conservation measure, SRU1 is no longer operated in standby service.
Complete study plan on how to limit excess TGU emissions and Acid Gas Flaring by 2/28/04	30	Acid Gas Flaring and TGU Excess Emissions Study Plan submitted 2/27/04. Pursuant to the plan, Navajo completed the study and submitted a 3/24/05 summary of the study including actions taken and recommendations. The study results were used to update the PMO plan with the modified PMO plan included with the 3/24/05 submittal.

C. Section V, Paragraph 31: Installation of Spare FCCU Wet Gas Compressor
Artesia FCCU (No FCCU at Lovington):

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Complete installation of spare wet gas compressor by 12/31/03. Operate so as to minimize the duration of AG or HC flaring incidents during outages of the original compressor.	31	A spare wet gas compressor was installed during the 4 th Quarter of 2003 FCCU turnaround. On 01/07/2011, Navajo's outside legal counsel submitted a request to modify or remove this paragraph. Operating procedures to minimize the duration of AG flaring were updated 04/30/2015. A preventive maintenance plan for the spare compressor C-0950 was completed on 05/11/2015.

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D. Section V, Paragraph 32: Supplemental Environmental Project (SEP) Benefiting the Artesia Community

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Complete implementation of SEP to benefit the Artesia community by June 30, 2003	32	Navajo completed the community SEP prior to the revised 9/29/03 deadline and submitted cost certification data on 9/23/03 pursuant to Paragraph 91. The SEP installed mechanical mixers to replace air mixers on nine asphalt storage tanks to reduce odors. The tanks were T-0110, T-0404, T-0405, T-0406, T-0409, T-0410, T-0428, T-0431, and T-0432. T-0404, T-0405, T-0406, and T-0409, and T-0428 have been permanently removed from service.

E. Section V, Paragraph 33: EMS Baseline Assessment for Artesia Refinery

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Obtain NMED approval for Independent Contractor to perform the baseline assessment	33.C	Completed via letter from NMED dated 4/19/02.
Execute contract with Independent Contractor	33.D	Completed as of 4/15/02
Baseline Assessment Report to be received by Navajo within 210 days of Date of Lodging	33.E	Navajo received the baseline assessment report on 7/17/02.
Navajo to implement recommendations in accordance with the baseline report schedule	33.F	Navajo has accepted the recommendations and schedule deadlines provided in the baseline report (the 8 recommendations are numbered in parenthesis in the discussion below). For the two (i.e., 1A and 5) recommendations with 10/1/02 deadlines, Navajo implemented both on time (i.e., prior to the deadline). The report to file required by CD ¶33.F.ii was completed 12/27/02.
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Navajo did the roll-out of the refinery environmental policy (1B) and put environmental responsibilities (3) into a new specifically developed operator's manual prior to the baseline report recommendation deadline (i.e., 2/1/03 and 3/1/03, respectively).

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Environmentally Beneficial Project	CD Paragraph	Status/Comment
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	The position descriptions (6) which were recommended for Navajo's Environmental Affairs Department staff were prepared and distributed prior to the 7/1/03 deadline. An independent consultant performed an on-site evaluation of Navajo's implementation of the recommendations and prepared a 6/23/03 evaluation report prior to the 6/30/03 deadline.
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Per the independent consultant's June 2003 evaluation report, the 9/1/03 original deadline for the recommended CBT training module (2) was revised to 3/1/04.
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Work commenced in November 2003 on developing the CBT training module (2). The CBT module was completed and rolled out on 2/27/04, thus meeting the 3/1/04 deadline. The decision was made to implement (7) via the electronic option (6/1/04 deadline). Recommendation No. 8A, "Develop Environmental Records Retention Policy and Document Control Procedures" was implemented prior to the 12/1/03 deadline.
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Completed the evaluation of the LDAR program, process and procedures (4) on 6/3/04 and determined that the program is working as intended. Integrated compliance requirements calendar (7) was implemented prior to the 6/1/04 deadline. Completed work to implement the environmental records management system (8B) during May 2004 with the aid of an outside consultant. The records management system is in place and working. An independent consultant conducted the implementation evaluation presented in a June 30, 2004 report, thus meeting the deadline. A final closure letter on the EMS improvement recommendations was issued September 30, 2004 by the consultant concluding no remaining EMS improvement actions for Navajo.

6.0 OTHER MATTERS

The recent implementation of flare monitoring requirements under NSPS Ja resulted in the identification and repair of several relief valves that were leaking to the flare. In addition, three flare gas streams with higher sulfur levels were identified as routed to the Lovington flare. These three streams were rerouted to the fuel gas system. As of November 11, 2015, all gas streams currently routed to the flares are being monitored for compliance with the NSPS Ja requirements. Excess emission information for the flares at Artesia and Lovington for the semiannual period: January-June 2016 was included in Attachment 4 to the 3rd quarter 2016 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2016 was included in the semiannual NSPS monitoring report submitted on January 30, 2017, and was attached to the 1st quarter 2017 Consent Decree Progress Report. Excess emission information for events occurring during the semiannual period: January-June 2017 was included in the semiannual NSPS Ja monitoring report submitted on July 28, 2017, and was attached to the 3rd quarter Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: January-June 2018 was included in the semiannual NSPS Ja monitoring report submitted on July 30, 2018, and was attached to the 3rd quarter 2018 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2018 was included in the semiannual NSPS Ja monitoring report submitted on January 30, 2019, and is attached to this 1st quarter Consent Decree Progress Report.

ATTACHMENT 1

APPENDIX G SUMMARY REPORTS

HollyFrontier Navajo Refining LLC
Artesia and Lovington Refineries

ATTACHMENT 1 TO 1st QUARTER 2019 STATUS REPORT
APPENDIX G STATUS SUMMARY REPORT

**REPORTS, PLANS AND CERTIFICATIONS
UNDER THE BENZENE WASTE NESHAP ENHANCED PROGRAM
PROVISIONS OF PARAGRAPH 22 OF THE CONSENT DECREE IN
UNITED STATES ET AL. V. NAVAJO REFINING CO. ET AL.**

<u>Name or Summary of the Report, Plan, or Certification</u>	<u>CD Sub-Para No.</u>	<u>Rqd. ("R") v. Contingent ("C")</u>	<u>One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")</u>	<u>Due Date</u>	<u>Status</u>
BWN Compliance Review and Verification Report	C.i.	R	1	270 days after Lodging	Review completed 09/11/2002. Report submitted 10/09/2002
Amended BWN Compliance Review and Verification Report	C.ii.	C	1	90 days after completing additional sampling requested by EPA	Not Yet Applicable. EPA has not requested additional sampling.
Amended TAB Report	D.i	C	1	60 days after completing BWN Compliance Review and Verification Report	An Amended Report for the Artesia Refinery (>1 Mg, <10 Mg) was Submitted 10/09/2002 with the Verification Report
Plan to comply w/ 6 BQ if TAB equals or is greater than 10	D.ii; J.vi.	C	1	180 days after completing BWN Compliance Review and Verification Report	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report

HollyFrontier Navajo Refining LLC
Artesia and Lovington Refineries

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<u>Name or Summary of the Report, Plan, or Certification</u>	<u>CD Sub-Para No.</u>	<u>Rqd. ("R") v. Contingent ("C")</u>	<u>One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")</u>	<u>Due Date</u>	<u>Status</u>
Compliance Certification	D.iv	C	1	30 days after completing all actions necessary to come into compliance	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report.
Waste/Slop/Off-Spec Oil Schematics	H.i.	R	1	90 days after Lodging	Submitted on 03/19/2002. Revised plan reflecting plant modifications submitted 04/29/2004. Schematics are awaiting written approval by EPA.
Submit revised Waste/Slop/Off-Spec Oil Schematics reflecting agreement with EPA on comments.	H.i.	C	1	Mutually-agreed upon time between Navajo and/or Montana Refining and EPA	Not Applicable until EPA confers with Navajo on the Waste/Slop/Off-Spec Oil Schematics.
Schedule to complete installation of controls on waste management units handling organic benzene waste	H.ii.	C	1	Mutually-agreed upon time between Navajo and/or Montana Refining and EPA, not to exceed 2 years	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report
Plan to quantify uncontrolled waste/slop/off-spec oil movements	H.iv.	R	1	90 days after EPA has approved schematics	Not Applicable until EPA provides written approval of the Waste/Slop/Off-Spec Oil Schematics. Although EPA has not commented on or approved the schematics submitted under paragraph 22.H.i, Navajo has quantified the uncontrolled waste/slop/off-spec oil movements in the annual NESHAP Subpart FF Total Annual Benzene (TAB) report.

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EOL Sampling Plan	I.i; J.ii	C	1	2 months after the 22.D.iii Certification (if TAB is 10 mg/yr or greater); 90 days after submitting final BWN Compliance Review and Verification Report (if TAB is 1 Mg/yr or more but less than 10)	EOL Sampling Plan submitted on 02/06/2003.
EOL Revised Sampling Plan	I.ii; J.ii.	C	As needed	If and when Navajo and/or Montana Refining become aware of factors indicating original plan no longer accurately reflects EOL benzene quantity	Revised EOL Sampling Plan submitted 03/31/2004.
Applicable after refinery TAB exceeds 10 Mg/yr - Plan to ensure that uncontrolled benzene does not equal or exceed, 6 Mg/yr or that it is minimized	I.vii;	C	As needed	30 days after the end of the quarter in which the projected calendar year benzene quantity is equal to or greater than 6 Mg.	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report.

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<u>Name or Summary of the Report, Plan, or Certification</u>	<u>CD Sub-Para No.</u>	<u>Rqd. ("R") v. Contingent ("C")</u>	<u>One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")</u>	<u>Due Date</u>	<u>Status</u>
Applicable if refinery TAB is > 1 but < 10 Mg/yr - Plan to ensure that uncontrolled benzene does not equal or exceed, as applicable, 10 Mg/yr or that it is minimized	J.iv-J.v	C	As needed	30 days after the end of the quarter in which the projected calendar year benzene quantity is equal to or greater than 10 Mg.	The 2007 4th quarter EOL benzene quantity exceeded 2.5 Mg, but the calendar year 2007 TAB did NOT exceed 10 Mg. Because the calendar year is over, and the TAB did not exceed 10 Mg in the calendar year, submittal of a plan to prevent the calendar year TAB from exceeding 10 Mg, as required under ¶ 22.J.iv, becomes moot. As required by ¶ 22.M.ii.a(3), Navajo specifically sought EPA's concurrence with this interpretation but no response has been received. The EOL BQ for the 1st quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr. The required plan was included as a supplement to the 2nd quarter report. Navajo specifically sought EPA's concurrence with this plan but no response has been received. The EOL BQ for the 3rd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr (see Attachment 3). The required plan was included as a supplement to the 3rd quarter report. As required by ¶ 22.M.ii.a(3), Navajo specifically sought EPA's concurrence with this plan but no response has been received. The EOL BQ for the 4th quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr so no plan was required. The EOL BQs for the 1st, 2nd, 3rd and 4th quarters of 2009 were <2.5 Mg and the projected 2009 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2010 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2011 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan is required. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2012 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan is required. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2013 were each <2.5 Mg

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					and the projected 2012 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st and 2nd quarters of 2014 was <2.5 Mg and the projected 2014 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2014 were <2.5 Mg and the projected 2014 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 4th quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2016 exceeded 2.5 Mg but the calendar year 2016 TAB did NOT exceed 10 Mg. As the first two quarters of 2016 indicated significantly lower concentrations of benzene in the wastewater, the projected TAB remained below 10 Mg for the calendar year, and as such no specific actions need to be taken to ensure the TAB does not exceed 10Mg. Regardless of that, however, Navajo developed a plan of targeted monitoring to help identify and address the benzene contributions during the third quarter. The plan was implemented by November 4, 2016 (attachment 4).

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					The EOL BQ for the 4th quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr, so no plan was required. The EOL BQ for the 2nd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr, so no plan was required. The EOL BQ for the 3rd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr, so no plan was required. The EOL BQ for the 4th quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr, so no plan was required. The EOL BQ for the 1st quarter of 2019 was <2.5 Mg and the projected TAB for 2019 was <10 Mg/yr, so no plan was required.

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<u>Name or Summary of the Report, Plan, or Certification</u>	<u>CD Sub-Para No.</u>	<u>Rqd. ("R") v. Contingent ("C")</u>	<u>One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")</u>	<u>Due Date</u>	<u>Status</u>
Proposal for Third-Party TAB Study and Compliance Review	I-viii; J.vi	C	1	Last day of 4 th Quarter as set forth in ¶ I.viii. (if TAB is 10 mg/yr or greater); As agreed by EPA and Navajo and/or Montana Refining (if TAB is 1 Mg/yr or more but less than 10)	Not Applicable unless refinery cannot take actions to keep TAB below 10 Mg/yr.
Third-Party TAB Study and Compliance Review	I-viii; J.vi	C	1	30 days after receipt of the Third-Party Study and Compliance Review	Not Applicable unless refinery cannot take actions to keep TAB below 10 Mg/yr.
Plan to implement the results of the Third-Party TAB Study and Compliance Review	J.vi;	C	1	120 days after receipt of the Third-Party TAB Study and Compliance Review	Not Applicable unless refinery cannot take actions to keep TAB below 10 Mg/yr.

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<u>Name or Summary of the Report, Plan, or Certification</u>	<u>CD Sub-Para No.</u>	<u>Rqd. ("R") v. Contingent ("C")</u>	<u>One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")</u>	<u>Due Date</u>	<u>Status</u>
Report on training done in that Quarter	G.i-iii.; Mii-a(1)	C	Q	Each Quarterly Report due under the Consent Decree	A training plan was developed 12/6/02 for the Artesia Refinery (i.e., since its TAB is greater than 1.0 Mg/yr). The first training session was held 1/7/03 at both the Artesia and Lovington refineries. The second training session for the two refineries was held 1/27/04 and 1/28/04. Annual refresher training performed the weeks of 2/8/05, 3/27/06, 3/5/07, 2/25/08 (Lov), 11/07/08 (Art), 12/18/09, 12/17/2010 and 12/20/2011, 11/08/2012, 01/14/2013, 04/18/2013 11/12 to 11/14/2013, 05/24/2014, 06/19/2014, 06/20/2014, 12/02/2014, 3/16/2015, 4/1/2015, 5/15/2015, 2/29/2016, 3/8/2016, 3/17/2016 (Art. and Lov), 02/28/2017 (Artesia and Lovington), 08/29/2017 (Artesia and Lovington), 09/30/2018 (Artesia and Lovington) and 02/28/2019 (Artesia and Lovington).

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Results of annual sampling of >0.05 Mg/yr benzene streams	J.i; Mii-a(2)	C	Q	In the first Quarterly Report for the first calendar quarter of each year	The annual sampling was performed in February 2005. The results were presented with the first quarter 2005 report. Annual sampling was performed in February 2006. The results were presented in Attachment 4 with the first quarter 2006 report. Annual sampling was performed in September and December 2007. The results were submitted in attachment 4 of the first quarter 2008 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2008. The results were submitted in attachment 4 of the first quarter 2009 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2009. The results were submitted in Attachment 4 of the first quarter 2010 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2010. The results were submitted in Attachment 4 of the first quarter 2011 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2011. The results were submitted in Attachment 4 of the first quarter 2012 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2012. The results were submitted in Attachment 4 of the first quarter 2013 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2013. The results were submitted in Attachment 4 of the first quarter 2014 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2014. The results were submitted in Attachment 4 of the 1st quarter 2015 report as required by ¶22.M.ii.a(2).
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Results of annual sampling of >0.05 Mg/yr benzene streams	J.i; Mii-a(2)	C	Q	In the first Quarterly Report for the first calendar quarter of each year	Annual sampling was performed in December 2015. The results were included in Attachment 4 of the 1 st quarter 2016 report as required by ¶22.M.ii.a(2). Annual sampling was performed in October 2016. The results were included in Attachment 4 of the 1 st quarter 2017 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2017. The results were included in Attachment 4 of the 1 st quarter 2018 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2018. The results are included in this 1 st quarter 2019 report as required by ¶22.M.ii.a(2).
Results of Quarterly EOL Sampling	J.iii; M.ii.a(3); M.ii-b(2)	C	Q	Each Quarterly Report due under the Consent Decree (after written EPA approval of EOL sampling plan)	2004: Under the assumption that the sampling plan was accepted by EPA upon the 03/31/2004 submittal of the revised EOL Sampling Plan, Navajo conducted its first EOL sampling during the week of 3/22/04. The annual TAB, submitted 4/05 was 4.9 Mg for Artesia and 1.5 Mg for Lovington. 2005: The EOL benzene quantity (BQ) for the 1 st , 2 nd , 3 rd , and 4 th quarter of 2005 were each <2.5 Mg. 2006: The EOL BQ for the 1 st , 2 nd , 3 rd , and 4 th quarters of 2006 were each <2.5 Mg. 2007: The 1 st , 2 nd , and 3 rd quarter 2007 EOL BQs were each < 2.5 Mg. The 2007 4 th quarter EOL benzene quantity exceeded 2.5 Mg, but the calendar year 2007 TAB did NOT exceed 10 Mg. 2008: The EOL BQ for the 1 st quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr. The EOL BQ for the 2 nd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr. The EOL BQ for the 3 rd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr. The EOL BQ for the 4 th quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr. 2009: The EOL BQ for the 1 st , 2 nd , 3 rd and 4 th quarters of 2009 were <2.5 Mg and the projected 2009 TAB was < 10 Mg/yr so no plan was required. 2010: The EOL BQ for the 1 st , 2 nd , 3 rd , and 4 th quarters of 2010 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan was required. 2011: The EOL BQ for the 1 st , 2 nd , 3 rd and 4 th quarters of 2011 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan is required.

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					2012: The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2012 was <2.5 Mg and the projected 2012 TAB was < 10 Mg/yr so no plan is required. 2013: The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2013 was <2.5 Mg and the projected 2012 TAB was < 10 Mg/yr so no plan is required. 2014: The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2014 were <2.5 Mg and the projected 2014 TAB was < 10 Mg/yr so no plan was required. 2015: The EOL BQ for the 1st quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 4th quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. 2016: The EOL BQ for the 1st quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2016 exceeded 2.5 Mg. As required by paragraph 22.J.iv, Navajo submits the following plan that identifies the specific actions that will be taken, and the schedule for such actions, to ensure the TAB does not exceed 10Mg in the calendar year. As the first two quarters of 2016 indicated significantly lower concentrations of benzene in the wastewater, the projected TAB remained below 10 Mg for the calendar year, and as such no specific actions need to be taken to ensure the TAB does not exceed 10Mg. Regardless of that, however, Navajo developed a plan of targeted monitoring to help identify and address the benzene contributions during the third quarter. The plan was implemented by November 4, 2016 (attachment 4). The EOL BQ for the 4th quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. 2017: The EOL BQ for the 1st quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr.
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					The EOL BQ for the 3rd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. 2018: The EOL BQ for the 1st quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. 2019: The EOL BQ for the 1st quarter of 2019 was <2.5 Mg and the projected TAB for 2019 was <10 Mg/yr.
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ATTACHMENT 2

APPENDIX H SUMMARY REPORTS

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

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**REPORTS, PLANS AND CERTIFICATIONS
 UNDER THE LDAR ENHANCED PROGRAM
 PROVISIONS OF PARAGRAPH 23 OF THE CONSENT DECREE IN
 UNITED STATES, ET AL. V. NAVAJO REFINING CO., ET AL.**

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Written Refinery-Wide LDAR Program	A; O.i.a	R	1	150 D after Lodging	Prepared by 4/19/02 and Submitted 5/13/02
Updated Refinery-Wide LDAR Program	A	C	1	As needed	LDAR plan updated 11/19/2009, 01/05/2011, 04/28/2014 (approved 7/22/2014).

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Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Report on training for new LDAR personnel	B.i; O.ii-c(1)	R	>1	In each Section 63.654 Report	Training addressed in 63.654 Report submitted 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011 06/08/2011, 07/10/2012, 09/10/12, 11/06/2012, 12/11/2012, 01/13/2013, 05/02/2013, 05/08/2013, 05/15/2013, 02/08/2013 03/09/2013 and 09/16/2014 (for Artesia and Lovington). New hire training was conducted 06/08/2011, 07/10/2012, 09/10/12, 11/06/2012, 12/11/2012, 01/13/2013, 05/02/2013, 05/08/2013, 05/15/2013, 02/08/2013, 12/9/2013, 03/22/2014, 03/31/2014, 04/01/2014, 06/18/14, 06/19/14, and 06/20/2014. Annual LDAR Computer Based Training (CBT) implemented during the fourth quarter 2014. First training completed before 12/31/2014. Annual CBT for new personnel completed during 2015. Annual CBT completed in 2016; additional training on 4/28/2016, 05/11/2016. Annual CBT completed in 2017; additional training on 04/13/2017, 04/25/2017, 05/20/2017, 12/01/2017. Annual CBT completed during 2018, additional training on 01/2018, 02/2018, and 03/2018. 2019 training on 01/08/2019, 01/11/2019, 02/20/2019, 03/05/2019, and 03/22/2019.

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Report on annual training for LDAR personnel	B.ii; O.ii-c(1)	R	>1	In each Section 63.654 Report	Training addressed in 63.654 Report submitted 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, (for Artesia and Lovington). Annual training was conducted on the following dates by the on-site LDAR contractor: 06/29/2011, 06/14/2012, 06/24/2013, 06/26/2013, 11/12 to 11/14/2014, 01/12/2014, 01/16/2014, 01/20/2014, 01/21/2014, 02/08/2014, 02/10/2014, 6/18/2014, 6/19/2014, and 06/20/2014. <i>Annual LDAR Computer Based Training (CBT)</i> implemented during the fourth quarter 2014 for all refinery and contractor personnel. Annual CBT conducted during 2015. Annual CBT in 2016; additional 2016 training on 1/3/2016, 1/6/2016, 1/14/2016, and 1/19/2016, 1/31/2016, 04/28/2016, 05/11/2016, 09/2016, 10/2016, 11/2016, and 12/2016. Annual CBT in 2017; additional training on 04/13/2017, 04/25/2017, 05/20/2017, 12/01/2017. Annual CBT in 2018; additional training on 01/2018, 02/2018, and 03/2018.

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Report on LDAR training for refinery and operations personnel who hold positions relevant to LDAR	B.iii; O.ii-c(1)	R	>1	In each Section 63.654 Report	Initial training program implemented. Training addressed in 63.654 Report submitted 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011, 03/14/2012 and 09/16/2013. Training was conducted on the following dates for refinery environmental personnel: 11/06/2012, 08/13 - 08/15/2013, 05/19 - 5/21/2014, 8/21/2014, 10/02/2014 . Annual LDAR Computer Based Training (CBT) implemented during the fourth quarter 2014 for all refinery and contractor personnel. Annual CBT in 2015. Annual CBT in 2016; additional training on 1/3/2016, 1/6/2016, 1/14/2016, and 1/19/2016, 1/31/2016, 04/28/2016, and 05/11/2016. Annual CBT in 2017; additional training on 04/13/2017, 04/25/2017, 05/20/2017, 12/01/2017. Annual CBT in 2018; additional training on 01/2018, 02/2018, and 03/2018.

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ATTACHMENT 2 TO 1st QUARTER 2019 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
LDAR audit reports and records of corrective actions. <i>Audits are required every two years.</i>	D; O.ii-b.	R	>1	In the Quarterly Report for the 1 st calendar Quarter of each year	Included in the 1st Qtr 2003 report (submitted 04/17/2003) as Attachment 3. 3rd party audits for Artesia and Lovington were performed during December 2004, January 2007, January 2009, and January 2011. Included in the 1st Qtr 2012 report, a copy of the 01/2011 Audit Report and the corrective actions taken were included with the 1st Quarter 2012 report as Attachment 5. The 2013 3rd party audit was conducted from 09/16 to 09/20/2013, after major refinery turnaround, and a complete quarter worth of normal operation data has been collected for comparative monitoring. A copy of the audit report and resolutions were presented in the 1st Quarter 2014 report. 3rd party audits for Artesia and Lovington were performed during the week of October 5th to 9th, 2015. A copy of the 2015 LDAR 3rd party audit report and resolutions are included in Attachment 5 of the 1st Quarter 2016 report. The 2017 LDAR 3rd party audit was conducted from 05/17 to 05/18/2017. A copy of the audit report was attached to the 3rd Quarter Consent Decree Progress Report. The audit resolutions were included as Attachment 5 to the 1st Quarter 2018 report.

HollyFrontier Navajo Refining LLC
Artesia and Lovington Refineries

ATTACHMENT 2 TO 1st QUARTER 2019 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Certification of implementation of the first attempt at repair program	G; O.ii-a(1)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002
Operational specifications for electronic LDAR data collection and transfer	I.ii.; O.i-b	R	1	6 mos. after Lodging for Navajo; 1 yr. after Lodging for Montana Refining	Submitted 06/19/2002
Certification of implementation of QA/QC procedures for review of data generated by LDAR monitoring technicians	J; O.ii-a(2)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due.	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002.

HollyFrontier Navajo Refining LLC
Artesia and Lovington Refineries

ATTACHMENT 2 TO 1st QUARTER 2019 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Identification of each Refinery's LDAR "point" person	K; O.ii-a(3)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002
Certification of the development of a tracking program for new valves and pumps	L; O.ii-a(4)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 1st QUARTER 2019 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Certification of implementation of calibration drift assessment procedures	M; O.ii-a(5)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the requirement becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002
Certification of implementation of the "delay of repair" procedures	N; O.ii-a(6)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the requirement becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 1st QUARTER 2019 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
LDAR monitoring report submitted with MACT periodic reports	O; O.ii-c(2)	R	>1	In each Section 63.654 Report	Provided in MACT 63.654 Reports submitted: 3/15/02, 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011, 09/15/2011, 03/09/2012, 0/06/2012 (09/06/2012 for Lovington), and 03/15/2013, 09/16/2013, (Lovington and Artesia) 02/25/2014 (Artesia), 08/26/2014 (Lovington), and 02/26/2015 (Artesia and Lovington), 08/27/2015, 2/18/2016 (Artesia and Lovington), 08/29/2016 (Artesia and Lovington), 02/28/2017 (Artesia and Lovington), 08/29/2017 (Artesia and Lovington) and 08/30/2018 (Artesia and Lovington).

ATTACHMENT 3

**QUARTERLY EOL SUMMARY
(Paragraph 22.M.ii.a(3))**

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

End of Line Sampling Report
1st Quarter 2019

ATTACHMENT 3 TO 1st QUARTER 2019 STATUS REPORT
QUARTERLY END OF LINE SAMPLING RESULTS

On January 10th, February 7th, and March 3rd, 2019, Navajo Refining's Artesia facility performed the End of Line (EOL) sampling pursuant to the Consent Decree, following the protocol described in Navajo's EOL sampling plan that was revised by a letter dated March 31, 2004. Due to changes in our wastewater system, the slop oil from our Alky API is diverted through the new wastewater API. Therefore, that stream is now factored into the calculations for the Wastewater API. As a result, Navajo has identified six (6) sampling points that were monitored during the EOL sampling. This included three representative samples for each sampling site, volume measurements, and specific gravity values, collected once a month during the quarter where applicable.

The following calculations estimate the quarterly EOL and calendar year benzene quantities:

Oil from Wastewater API EOL (Mg/qtr) = weeks/quarter x Oil Volume (gal/wk) x lbs. water/gallon x Specific Gravity of oil (dimensionless) x average benzene concentration in oil (ppmw) x grams/lb ÷ 10⁶ g/Mg

Oil from Wastewater API EOL (Mg/qtr) = 13 wks/qtr x 92,387 gals/wk x 8.34 lbs./gallon x 0.97 (dimensionless) x 14.5 lb/10⁶ x 454 g/lb ÷ 10⁶ g/Mg

Oil from Wastewater API EOL = 0.06 Mg/qtr

Wastewater - EOL (Mg/qtr) = days/qtr x Average Flow (gal/day) x Water Density (lbs. water/gal) x Average Benzene Concentration in wastewater (ppmw) x grams/lb ÷ 10⁶ g/Mg

Wastewater - EOL (Mg/qtr) = 92 days/qtr x 720,000 gal/day x 8.34 lbs/gal x 0.98 lb/10⁶ lb x 454 g/lb ÷ 10⁶ g/Mg

Wastewater - EOL = 0.25 Mg/qtr

Cement Kiln Fuel Product EOL (Mg/qtr) = Amount of cement kiln fuel shipped in quarter (lbs/qtr) x Average Benzene Concentration (ppmw) x g/lb ÷ 10⁶ g/Mg

Cement Kiln Fuel Product EOL (Mg/qtr) = 0 (lbs/qtr) x 5.0 lb/10⁶ x 454 g/lb ÷ 10⁶ g/Mg

There was no sludge generated during the 1st quarter 2019.

Cement Kiln Fuel Product EOL = 0.00 Mg/qtr

Aqueous Waste Caustic EOL (Mg/qtr) = Amount of aqueous waste caustic shipped in the quarter (total of Tanks 40 and 41) (gal) x lbs/gal x Average Benzene Concentration (ppmw) x g/lb ÷ 10⁶ g/Mg

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

End of Line Sampling Report
1st Quarter 2019

ATTACHMENT 3 TO 1st QUARTER 2019 STATUS REPORT
QUARTERLY END OF LINE SAMPLING RESULTS

Aqueous Waste Caustic EOL (Mg/qtr) = 18,603 gal/qtr x 9.69 lbs/gal x 0.327 lb/10⁶ lb x 454 g/lb ÷ 10⁶ g/Mg

Aqueous Waste Caustic EOL = 2.7 E (-5) Mg/qtr

Waste Caustic Hydrocarbon EOL (Mg/qtr) = days/qtr x avg flow (gal/day) x water density (lbs/ gal) x Specific Gravity (dimensionless) x Average Benzene Concentration (ppmw) x g/lb ÷ 10⁶ g/Mg

Waste Caustic Hydrocarbon EOL (Mg/qtr) = 92 days/qtr x 42 gal/day x 8.34 lbs/gal x 1.17 (dimensionless) x 0.23 lb/10⁶ lb x 454 g/lb ÷ 10⁶ g/Mg

Waste Caustic Hydrocarbon EOL = 4.0 E(-6) Mg/qtr

Therefore, estimated total quarterly benzene equals **benzene in Oil from Wastewater API (Mg/qtr) + benzene in Wastewater (Mg/qtr) + benzene in Cement Kiln Fuel Product (Mg/qtr) + benzene in Aqueous Waste Caustic (Mg/qtr) + benzene in Waste Caustic Hydrocarbon (Mg/qtr)**.

Estimated Total Quarterly Benzene = **0.06 Mg/qtr + 0.25 Mg/qtr + 0.0 Mg/qtr + 2.7 E (-5) Mg/qtr + 4.0 E(-6) Mg/qtr**

Estimated Quarterly EOL Benzene = **0.31 Mg/qtr**

Therefore, the Artesia Refinery's quarterly EOL benzene quantity did not exceed 2.5 Mg/qtr.

Estimated Annual Benzene (AB) Quantity for calendar year 2018

Estimated 2019 TAB = 1stQ * 4 = 0.31*4

**Estimated 2019 TAB = 1.24
Mg**

The Artesia Refinery's projected calendar year 2019 total annual benzene quantity does not exceed 10 Mg/yr.

The above calculations were determined using the values from the following table and the attached analyses.

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

End of Line Sampling Report
1st Quarter 2019

ATTACHMENT 3 TO 1st QUARTER 2019 STATUS REPORT
QUARTERLY END OF LINE SAMPLING RESULTS

TABLE 1
QUARTERLY EOL SAMPLING NAVAJO REFINING

Sampling Point	Volume	Test results Sample Collected 01/10/2019	Test results Sample Collected 02/07/2019	Test results Sample Collected 05/03/2019	Average of Samples	Specific Gravity or Density
Oil from Wastewater API (S-1)	92,387 gal/wk	36 ppm	5.50 ppm	1.9 ppm	14.47 ppm	0.97
Wastewater Tanks (S-3)	720,000 gal/day	1.70 ppm	0.46 ppm	0.78 ppm	0.98 ppm	1.01
Cement Kiln Fuel (S-4)**	0 lbs	NA	NA	NA	NA	NA
Aqueous Waste Caustic Tank 40 (S-5)	18,603 gal/qtr	0.024 ppm ⁺	0.024 ppm ⁺	0.024 ppm ⁺	0.024 ppm	1.15
Aqueous Waste Caustic Tank 41 (S-6)	*	0.480 ppm	0.210 ppm	0.290ppm	0.327 ppm	1.14
Average of Aqueous Waste Caustic Tanks (S-5 and S-6)	*	0.252 ppm	0.117 ppm	0.157 ppm	0.175ppm	1.14
Waste Caustic Hydrocarbon (S-7)	42 gal/day	0.23 [#]	0.23 [#]	0.23 [#]	0.23 [#]	1.17 [#]

*The volume for Caustic Tank 41 is reflected in the value assigned to Tank 40. The quantity assigned to Tank 40 is the combined volume from BOTH tanks that was shipped out in the quarter.

** There was no sludge generated during the 1st quarter 2018.

⁺The Benzene result was below the method detection limit (MDL) of 0.024 ppm. The MDL was used as a conservative approach.

[#]No sample could be collected because the hydrocarbon layer was between the sample point draws on the tank. 4 QT 2017 average Benzene of 0.23 ppm, specific gravity of 1.17 was used.

ATTACHMENT 4 - CD

**2018 TAB SUMMARY
(Paragraph 22.J)**

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

1st Quarter 2019

ATTACHMENT 4 TO 1st QUARTER 2019 STATUS REPORT
ANNUAL TAB RESULTS

2018 Annual Sampling Results for Streams Contributing ≥ 0.05 Mg/yr to the 2018 TAB

As required by paragraph 22.J.i of the Consent Decree, Navajo identified the streams in the 2018 Total Annual Benzene (TAB) report for the Artesia Refinery that contributed 0.05 Mg/yr benzene or more. These streams were:

Process Unit No.	Unit Name	Streams Identified.	Number of TAB Streams	2018 TAB (Mg/yr)
02	CRUDE (ATMOSPHERIC) UNIT	52	16	0.91
08	TANK FARM	21	12	0.05
13	NAPHTHA HYDROTREATING UNIT	28	5	0.29
16	SKID TREATERS	31	16	0.18
29	BLENDING AREAS	7	4	0.25
34	HYDROCRACKING UNIT	45	21	0.11
LAB	LAB SAMPLE WASTE	22	19	0.6
VAC TRUCKS	VACUUM TRUCKS	2	1	1.45
TANK WATER DRAW	TANK WATER DRAW	2	1	2.27
WSOS	WASTE SHIPPED OFF- SITE	2	1	0.25
PUMPS	PUMP MAINTENANCE	2	1	0.43
EXCHANGERS	EXCHANGER MAINTENANCE	3	2	0.23

Of these streams, “Lab ” and “Vacuum Trucks” were not sampled because they are aggregate samples made up of many individual samples. For instance, the Lab Samples number is an aggregate of several thousand product samples, none of which individually would be greater than 0.05 Mg/yr. Similarly, the Vacuum Trucks Movements are an aggregate of all the gathering stations, none of which individually would be over the 0.05 Mg/yr limit.

No additional samples were taken from tanks T-40 and T-41. The oil layer in these spent caustic tanks is sampled as part of the quarterly end-of-line sampling. Therefore, the

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

1st Quarter 2019

ATTACHMENT 4 TO 1st QUARTER 2019 STATUS REPORT
ANNUAL TAB RESULTS

results of sampling tanks T-40 and T-41 have been included in the “Attachment 3” results in each quarterly report for the calendar year.

Navajo sampled each of the remaining streams to get a representative average number for each stream’s benzene concentration. Because the waste stream flows are not consistent, it is not always possible to obtain a sample.

ATTACHMENT 5 - Provided in Enclosed CD

**2019 1QT EOL ANALYTICAL REPORTS
(Paragraph 22.M.ii.a(3))**



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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January 17, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19010541**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 9 sample(s) on Jan 11, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKELAWAL
Corey Grandits
Project Manager

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19010541

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19010541-01	S-1 (API HC)	Liquid		10-Jan-2019 08:53	11-Jan-2019 09:00	☐
HS19010541-02	S-3 (API Water)	Liquid		10-Jan-2019 09:13	11-Jan-2019 09:00	☐
HS19010541-03	S-5 (T-40)	Liquid		10-Jan-2019 08:32	11-Jan-2019 09:00	☐
HS19010541-04	S-6 (T-41)	Liquid		10-Jan-2019 08:35	11-Jan-2019 09:00	☐
HS19010541-05	Field Blank	Water		10-Jan-2019 09:04	11-Jan-2019 09:00	☐
HS19010541-06	EQ Blank Port 1	Water		10-Jan-2019 09:35	11-Jan-2019 09:00	☐
HS19010541-07	EQ Blank Port 2	Water		10-Jan-2019 09:35	11-Jan-2019 09:00	☐
HS19010541-08	Duplicate	Liquid		10-Jan-2019 00:00	11-Jan-2019 09:00	☐
HS19010541-09	Trip Blank	Water	CG 101618 -95	10-Jan-2019 00:00	11-Jan-2019 09:00	☐

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19010541

CASE NARRATIVE

GCMS Volatiles by Method SW8260**Batch ID: R331086****Sample ID: S-5 (T-40) (HS19010541-03)**

- Surrogate failure for HS19010541-03 due to sample matrix.

Sample ID: S-6 (T-41) (HS19010541-04)

- Surrogate failure for HS19010541-04 due to sample matrix.

Batch ID: R331013**Sample ID: HS19010527-01MS**

- MSD is for an unrelated sample

Batch ID: R331105**Sample ID: HS19010487-02MSD**

- MSD is for an unrelated sample

Batch ID: R331187

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-1 (API HC)
 Collection Date: 10-Jan-2019 08:53

ANALYTICAL REPORT

WorkOrder:HS19010541
 Lab ID:HS19010541-01
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260		Analyst: WLR			
Benzene	36		0.24	2.4	mg/Kg	500	15-Jan-2019 18:38
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>98.1</i>			<i>70-126</i>	<i>%REC</i>	<i>500</i>	<i>15-Jan-2019 18:38</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>70-130</i>	<i>%REC</i>	<i>500</i>	<i>15-Jan-2019 18:38</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>70-130</i>	<i>%REC</i>	<i>500</i>	<i>15-Jan-2019 18:38</i>
<i>Surr: Toluene-d8</i>	<i>96.6</i>			<i>70-130</i>	<i>%REC</i>	<i>500</i>	<i>15-Jan-2019 18:38</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-3 (API Water)
 Collection Date: 10-Jan-2019 09:13

ANALYTICAL REPORT

WorkOrder:HS19010541
 Lab ID:HS19010541-02
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	1.7		0.030	0.25	mg/L	50	17-Jan-2019 01:52
<i>Surr: 1,2-Dichloroethane-d4</i>	98.8			70-126	%REC	50	17-Jan-2019 01:52
<i>Surr: 4-Bromofluorobenzene</i>	99.9			82-124	%REC	50	17-Jan-2019 01:52
<i>Surr: Dibromofluoromethane</i>	98.8			77-123	%REC	50	17-Jan-2019 01:52
<i>Surr: Toluene-d8</i>	99.9			82-127	%REC	50	17-Jan-2019 01:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-5 (T-40)
 Collection Date: 10-Jan-2019 08:32

ANALYTICAL REPORT

WorkOrder:HS19010541
 Lab ID:HS19010541-03
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C	Method:SW8260						Analyst: WLR
Benzene	< 0.024		0.024	0.24	mg/Kg	50	16-Jan-2019 09:53
Surr: 1,2-Dichloroethane-d4	91.8			70-126	%REC	50	16-Jan-2019 09:53
Surr: 4-Bromofluorobenzene	110			70-130	%REC	50	16-Jan-2019 09:53
Surr: Dibromofluoromethane	68.2	S		70-130	%REC	50	16-Jan-2019 09:53
Surr: Toluene-d8	91.5			70-130	%REC	50	16-Jan-2019 09:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-6 (T-41)
 Collection Date: 10-Jan-2019 08:35

ANALYTICAL REPORT

WorkOrder:HS19010541
 Lab ID:HS19010541-04
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260		Analyst: WLR			
Benzene	0.48		0.024	0.24	mg/Kg	50	16-Jan-2019 10:17
<i>Surr: 1,2-Dichloroethane-d4</i>	92.2			70-126	%REC	50	16-Jan-2019 10:17
<i>Surr: 4-Bromofluorobenzene</i>	111			70-130	%REC	50	16-Jan-2019 10:17
<i>Surr: Dibromofluoromethane</i>	66.2	S		70-130	%REC	50	16-Jan-2019 10:17
<i>Surr: Toluene-d8</i>	91.8			70-130	%REC	50	16-Jan-2019 10:17

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: Field Blank
Collection Date: 10-Jan-2019 09:04

ANALYTICAL REPORT

WorkOrder:HS19010541
Lab ID:HS19010541-05
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260				Analyst: PC	
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	15-Jan-2019 17:07
Surr: 1,2-Dichloroethane-d4	95.8			70-126	%REC	1	15-Jan-2019 17:07
Surr: 4-Bromofluorobenzene	101			82-124	%REC	1	15-Jan-2019 17:07
Surr: Dibromofluoromethane	98.3			77-123	%REC	1	15-Jan-2019 17:07
Surr: Toluene-d8	98.0			82-127	%REC	1	15-Jan-2019 17:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 1
 Collection Date: 10-Jan-2019 09:35

ANALYTICAL REPORT

WorkOrder:HS19010541
 Lab ID:HS19010541-06
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	15-Jan-2019 17:31
Surr: 1,2-Dichloroethane-d4	97.2			70-126	%REC	1	15-Jan-2019 17:31
Surr: 4-Bromofluorobenzene	98.6			82-124	%REC	1	15-Jan-2019 17:31
Surr: Dibromofluoromethane	98.0			77-123	%REC	1	15-Jan-2019 17:31
Surr: Toluene-d8	105			82-127	%REC	1	15-Jan-2019 17:31

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 2
 Collection Date: 10-Jan-2019 09:35

ANALYTICAL REPORT

WorkOrder:HS19010541
 Lab ID:HS19010541-07
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	15-Jan-2019 17:55
Surr: 1,2-Dichloroethane-d4	97.0			70-126	%REC	1	15-Jan-2019 17:55
Surr: 4-Bromofluorobenzene	102			82-124	%REC	1	15-Jan-2019 17:55
Surr: Dibromofluoromethane	99.5			77-123	%REC	1	15-Jan-2019 17:55
Surr: Toluene-d8	98.8			82-127	%REC	1	15-Jan-2019 17:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Duplicate
 Collection Date: 10-Jan-2019 00:00

ANALYTICAL REPORT

WorkOrder:HS19010541
 Lab ID:HS19010541-08
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260					Analyst: WLR
Benzene	0.97		0.024	0.24	mg/Kg	50	15-Jan-2019 19:00
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>97.9</i>			<i>70-126</i>	<i>%REC</i>	<i>50</i>	<i>15-Jan-2019 19:00</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>70-130</i>	<i>%REC</i>	<i>50</i>	<i>15-Jan-2019 19:00</i>
<i>Surr: Dibromofluoromethane</i>	<i>103</i>			<i>70-130</i>	<i>%REC</i>	<i>50</i>	<i>15-Jan-2019 19:00</i>
<i>Surr: Toluene-d8</i>	<i>96.1</i>			<i>70-130</i>	<i>%REC</i>	<i>50</i>	<i>15-Jan-2019 19:00</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Trip Blank
 Collection Date: 10-Jan-2019 00:00

ANALYTICAL REPORT

WorkOrder:HS19010541
 Lab ID:HS19010541-09
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	15-Jan-2019 16:43
Surr: 1,2-Dichloroethane-d4	98.4			70-126	%REC	1	15-Jan-2019 16:43
Surr: 4-Bromofluorobenzene	99.0			82-124	%REC	1	15-Jan-2019 16:43
Surr: Dibromofluoromethane	98.8			77-123	%REC	1	15-Jan-2019 16:43
Surr: Toluene-d8	102			82-127	%REC	1	15-Jan-2019 16:43

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19010541

Batch ID: 2867 **Method:** VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS19010541-01	1	5.222 (g)	5 (mL)	0.96	Bulk (5030B)
HS19010541-03	1	5.104 (g)	5 (mL)	0.98	Bulk (5030B)
HS19010541-04	1	5.12 (g)	5 (mL)	0.98	Bulk (5030B)
HS19010541-08	1	5.296 (g)	5 (mL)	0.94	Bulk (5030B)

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19010541

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R331013 Test Name : VOLATILES BY SW8260C Matrix: Liquid						
HS19010541-01	S-1 (API HC)	10 Jan 2019 08:53			15 Jan 2019 18:38	500
HS19010541-08	Duplicate	10 Jan 2019 00:00			15 Jan 2019 19:00	50
Batch ID R331086 Test Name : VOLATILES BY SW8260C Matrix: Liquid						
HS19010541-03	S-5 (T-40)	10 Jan 2019 08:32			16 Jan 2019 09:53	50
HS19010541-04	S-6 (T-41)	10 Jan 2019 08:35			16 Jan 2019 10:17	50
Batch ID R331105 Test Name : VOLATILES - SW8260C Matrix: Water						
HS19010541-05	Field Blank	10 Jan 2019 09:04			15 Jan 2019 17:07	1
HS19010541-06	EQ Blank Port 1	10 Jan 2019 09:35			15 Jan 2019 17:31	1
HS19010541-07	EQ Blank Port 2	10 Jan 2019 09:35			15 Jan 2019 17:55	1
HS19010541-09	Trip Blank	10 Jan 2019 00:00			15 Jan 2019 16:43	1
Batch ID R331187 Test Name : VOLATILES - SW8260C Matrix: Liquid						
HS19010541-02	S-3 (API Water)	10 Jan 2019 09:13			17 Jan 2019 01:52	50

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19010541

QC BATCH REPORT

Batch ID: R331013		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: MBLKW1-011519	Units: ug/Kg		Analysis Date: 15-Jan-2019 09:44					
Client ID:	Run ID: VOA8_331013	SeqNo: 4908042		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2381	0	2500	0	95.2	76 - 125			
Surr: 4-Bromofluorobenzene	2473	0	2500	0	98.9	80 - 120			
Surr: Dibromofluoromethane	2446	0	2500	0	97.8	80 - 119			
Surr: Toluene-d8	2470	0	2500	0	98.8	81 - 118			

LCS	Sample ID: VLCSW1-011519	Units: ug/Kg		Analysis Date: 15-Jan-2019 08:58					
Client ID:	Run ID: VOA8_331013	SeqNo: 4908041		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	49.08	5.0	50	0	98.2	75 - 124			
Surr: 1,2-Dichloroethane-d4	46.54	0	50	0	93.1	76 - 125			
Surr: 4-Bromofluorobenzene	51.67	0	50	0	103	80 - 120			
Surr: Dibromofluoromethane	49.37	0	50	0	98.7	80 - 119			
Surr: Toluene-d8	48.51	0	50	0	97.0	81 - 118			

MS	Sample ID: HS19010527-01MS	Units: ug/Kg		Analysis Date: 15-Jan-2019 11:14					
Client ID:	Run ID: VOA8_331013	SeqNo: 4908303		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	3404	240	2450	638	113	70 - 130			
Surr: 1,2-Dichloroethane-d4	2453	0	2450	0	100	70 - 126			
Surr: 4-Bromofluorobenzene	2618	0	2450	0	107	70 - 130			
Surr: Dibromofluoromethane	2478	0	2450	0	101	70 - 130			
Surr: Toluene-d8	2336	0	2450	0	95.3	70 - 130			

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19010541

QC BATCH REPORT

Batch ID: R331013		Instrument: VOA8		Method: SW8260						
MSD	Sample ID: HS19010527-01MSD	Units: ug/Kg			Analysis Date: 15-Jan-2019 11:35					
Client ID:	Run ID: VOA8_331013	SeqNo: 4908304		PrepDate:		DF: 50				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	3986	240	2450	638	137	70 - 130	3404	15.8	30	S
Surr: 1,2-Dichloroethane-d4	2510	0	2450	0	102	70 - 126	2453	2.29	30	
Surr: 4-Bromofluorobenzene	2627	0	2450	0	107	70 - 130	2618	0.317	30	
Surr: Dibromofluoromethane	2399	0	2450	0	97.9	70 - 130	2478	3.24	30	
Surr: Toluene-d8	2275	0	2450	0	92.8	70 - 130	2336	2.64	30	
The following samples were analyzed in this batch: HS19010541-01 HS19010541-08										

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19010541

QC BATCH REPORT

Batch ID: R331086		Instrument: VOA8		Method: SW8260					
MBLK		Sample ID: MBLKW1-011619		Units: ug/Kg		Analysis Date: 16-Jan-2019 09:32			
Client ID:		Run ID: VOA8_331086		SeqNo: 4909866		PrepDate:		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2366	0	2500	0	94.7	76 - 125			
Surr: 4-Bromofluorobenzene	2511	0	2500	0	100	80 - 120			
Surr: Dibromofluoromethane	2310	0	2500	0	92.4	80 - 119			
Surr: Toluene-d8	2383	0	2500	0	95.3	81 - 118			

LCS		Sample ID: VLCSW1-011619		Units: ug/Kg		Analysis Date: 16-Jan-2019 08:48			
Client ID:		Run ID: VOA8_331086		SeqNo: 4909865		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Benzene	57.91	5.0	50	0	116	75 - 124			
Surr: 1,2-Dichloroethane-d4	49.23	0	50	0	98.5	76 - 125			
Surr: 4-Bromofluorobenzene	50.12	0	50	0	100	80 - 120			
Surr: Dibromofluoromethane	49.81	0	50	0	99.6	80 - 119			
Surr: Toluene-d8	47.62	0	50	0	95.2	81 - 118			

MS		Sample ID: HS19010443-06MS		Units: ug/Kg		Analysis Date: 16-Jan-2019 11:23			
Client ID:		Run ID: VOA8_331086		SeqNo: 4910168		PrepDate:		DF: 500000	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Benzene	50370000	2400000	2.45e+007	22950000	112	70 - 130			
Surr: 1,2-Dichloroethane-d4	23160000	0	2.45e+007	0	94.5	70 - 126			
Surr: 4-Bromofluorobenzene	25690000	0	2.45e+007	0	105	70 - 130			
Surr: Dibromofluoromethane	24350000	0	2.45e+007	0	99.4	70 - 130			
Surr: Toluene-d8	23320000	0	2.45e+007	0	95.2	70 - 130			

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19010541

QC BATCH REPORT

Batch ID: R331086		Instrument: VOA8		Method: SW8260						
MSD	Sample ID: HS19010443-06MSD	Units: ug/Kg			Analysis Date: 16-Jan-2019 11:45					
Client ID:	Run ID: VOA8_331086	SeqNo: 4910169		PrepDate:		DF: 500000				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Benzene	49680000	2400000	2.45e+007	22950000	109	70 - 130	50370000	1.37	30	
Surr: 1,2-Dichloroethane-d4	23450000	0	2.45e+007	0	95.7	70 - 126	23160000	1.26	30	
Surr: 4-Bromofluorobenzene	25940000	0	2.45e+007	0	106	70 - 130	25690000	0.962	30	
Surr: Dibromofluoromethane	24830000	0	2.45e+007	0	101	70 - 130	24350000	1.92	30	
Surr: Toluene-d8	23320000	0	2.45e+007	0	95.2	70 - 130	23320000	0.00119	30	
The following samples were analyzed in this batch:		HS19010541-03		HS19010541-04						

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19010541

QC BATCH REPORT

Batch ID: R331105		Instrument: VOA6		Method: SW8260					
MBLK	Sample ID: VBLKW-190115	Units: ug/L		Analysis Date: 15-Jan-2019 12:19					
Client ID:	Run ID: VOA6_331105	SeqNo: 4909977		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	48.23	0	50	0	96.5	70 - 130			
Surr: 4-Bromofluorobenzene	50.01	0	50	0	100	82 - 115			
Surr: Dibromofluoromethane	48.71	0	50	0	97.4	73 - 126			
Surr: Toluene-d8	50.84	0	50	0	102	81 - 120			

LCS	Sample ID: VLCSW-190115	Units: ug/L		Analysis Date: 15-Jan-2019 11:31					
Client ID:	Run ID: VOA6_331105	SeqNo: 4909976		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	18.16	5.0	20	0	90.8	74 - 120			
Surr: 1,2-Dichloroethane-d4	47.74	0	50	0	95.5	70 - 130			
Surr: 4-Bromofluorobenzene	50.14	0	50	0	100	82 - 115			
Surr: Dibromofluoromethane	49.46	0	50	0	98.9	73 - 126			
Surr: Toluene-d8	49.83	0	50	0	99.7	81 - 120			

MS	Sample ID: HS19010487-02MS	Units: ug/L		Analysis Date: 15-Jan-2019 15:07					
Client ID:	Run ID: VOA6_331105	SeqNo: 4909980		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	14.23	5.0	20	0	71.1	70 - 127			
Surr: 1,2-Dichloroethane-d4	48.93	0	50	0	97.9	70 - 126			
Surr: 4-Bromofluorobenzene	49.94	0	50	0	99.9	82 - 124			
Surr: Dibromofluoromethane	49.23	0	50	0	98.5	77 - 123			
Surr: Toluene-d8	49.65	0	50	0	99.3	82 - 127			

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19010541

QC BATCH REPORT

Batch ID: R331105		Instrument: VOA6		Method: SW8260						
MSD	Sample ID: HS19010487-02MSD	Units: ug/L			Analysis Date: 15-Jan-2019 15:31					
Client ID:	Run ID: VOA6_331105	SeqNo: 4909981		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	13.92	5.0	20	0	69.6	70 - 127	14.23	2.19	20	S
Surr: 1,2-Dichloroethane-d4	48.19	0	50	0	96.4	70 - 126	48.93	1.52	20	
Surr: 4-Bromofluorobenzene	51.18	0	50	0	102	82 - 124	49.94	2.46	20	
Surr: Dibromofluoromethane	49.6	0	50	0	99.2	77 - 123	49.23	0.749	20	
Surr: Toluene-d8	48.62	0	50	0	97.2	82 - 127	49.65	2.1	20	
The following samples were analyzed in this batch:										
HS19010541-05		HS19010541-06		HS19010541-07		HS19010541-09				

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19010541

QC BATCH REPORT

Batch ID: R331187		Instrument: VOA6		Method: SW8260					
MBLK		Sample ID: VBLKW-190116		Units: ug/L		Analysis Date: 16-Jan-2019 23:03			
Client ID:		Run ID: VOA6_331187		SeqNo: 4911965		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	49.26	0	50	0	98.5	70 - 130			
Surr: 4-Bromofluorobenzene	49.99	0	50	0	100.0	82 - 115			
Surr: Dibromofluoromethane	49.65	0	50	0	99.3	73 - 126			
Surr: Toluene-d8	49.21	0	50	0	98.4	81 - 120			

LCS		Sample ID: VLCSW-190116		Units: ug/L		Analysis Date: 16-Jan-2019 22:15			
Client ID:		Run ID: VOA6_331187		SeqNo: 4911964		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Benzene	17.79	5.0	20	0	88.9	74 - 120			
Surr: 1,2-Dichloroethane-d4	50.45	0	50	0	101	70 - 130			
Surr: 4-Bromofluorobenzene	49.57	0	50	0	99.1	82 - 115			
Surr: Dibromofluoromethane	50.02	0	50	0	100	73 - 126			
Surr: Toluene-d8	49.62	0	50	0	99.2	81 - 120			

MS		Sample ID: HS19010524-22MS		Units: ug/L		Analysis Date: 17-Jan-2019 00:16			
Client ID:		Run ID: VOA6_331187		SeqNo: 4911967		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Benzene	20.03	5.0	20	0	100	70 - 127			
Surr: 1,2-Dichloroethane-d4	49.18	0	50	0	98.4	70 - 126			
Surr: 4-Bromofluorobenzene	50.24	0	50	0	100	82 - 124			
Surr: Dibromofluoromethane	49.79	0	50	0	99.6	77 - 123			
Surr: Toluene-d8	49.76	0	50	0	99.5	82 - 127			

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19010541

QC BATCH REPORT

Batch ID: R331187		Instrument: VOA6		Method: SW8260						
MSD	Sample ID: HS19010524-22MSD	Units: ug/L			Analysis Date: 17-Jan-2019 00:40					
Client ID:	Run ID: VOA6_331187	SeqNo: 4911968		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19.43	5.0	20	0	97.2	70 - 127	20.03	3.01	20	
Surr: 1,2-Dichloroethane-d4	49.22	0	50	0	98.4	70 - 126	49.18	0.0921	20	
Surr: 4-Bromofluorobenzene	49.85	0	50	0	99.7	82 - 124	50.24	0.79	20	
Surr: Dibromofluoromethane	49.87	0	50	0	99.7	77 - 123	49.79	0.162	20	
Surr: Toluene-d8	49.6	0	50	0	99.2	82 - 127	49.76	0.32	20	

The following samples were analyzed in this batch: HS19010541-02

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19010541

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

ALS Houston, US

Date: 17-Jan-19

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019

ALS Houston, US

Date: 17-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19010541

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19010541-01	S-1 (API HC)	Login	1/12/2019 2:25:39 PM	JRM	B070
HS19010541-02	S-3 (API Water)	Login	1/12/2019 2:25:39 PM	JRM	B070
HS19010541-03	S-5 (T-40)	Login	1/12/2019 2:25:39 PM	JRM	B070
HS19010541-04	S-6 (T-41)	Login	1/12/2019 2:25:39 PM	JRM	B070
HS19010541-05	Field Blank	Login	1/12/2019 2:25:39 PM	JRM	B070
HS19010541-06	EQ Blank Port 1	Login	1/12/2019 2:25:39 PM	JRM	B070
HS19010541-07	EQ Blank Port 2	Login	1/12/2019 2:25:39 PM	JRM	B070
HS19010541-08	Duplicate	Login	1/12/2019 2:25:39 PM	JRM	B070
HS19010541-09	Trip Blank	Login	1/12/2019 2:25:39 PM	JRM	B070

ALS Houston, US

Date: 17-Jan-19

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS19010541

Date/Time Received: **11-Jan-2019 09:00**
Received by: **JRM**

Checklist completed by: <u>Jared R. Makan</u>	12-Jan-2019	Reviewed by: <u>Corey Grandits</u>	14-Jan-2019
eSignature	Date	eSignature	Date

Matrices: **Liquid**Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☒
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	

Temperature(s)/Thermometer(s):

1.0c/1.4c UC/C

IR11

Cooler(s)/Kit(s):

Foam cooler

Date/Time sample(s) sent to storage:

01/11/2019 20:40

Water - VOA vials have zero headspace?

Yes ☒No ☐

No VOA vials submitted

☐

Water - pH acceptable upon receipt?

Yes ☒No ☐N/A ☐

pH adjusted?

Yes ☐No ☒N/A ☐

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

Page 1 of 1
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+1 970 490 1511

☐ Middletown, PA
+1 717 944 5541

☐ York, PA
+1 717 505 5280

Customer Information			ALS Project Manager: Erica Padilla				Work Order #:										
Project Information			Parameter/Method Request for Analysis														
Purchase Order			Project Name	BWON Monthly Sampling (EOL)			A	VOLATILES (8260) Benzene									
Work Order			Project Number				B										
Company Name	Navajo Refining Company LLC		Bill To Company	Holly Frontier Navajo Refining LLC			C										
Send Report To	Tyler Turner Gabi Combs		Invoice Attn	Susie Aguilar			D										
Address	P.O. Box 159		Address	501 East Main			E										
City/State/Zip	Artesia, NM 88211-0159		City/State/Zip	Artesia, New Mexico 88210			F										
Phone	(575) 748-3311		Phone	(575) 748-3311			G										
Fax	(575) 746-5451		Fax	(575) 746-5451			H										
e-Mail Address	tturner.am@gmail.com Gabiela.Combs@hollyfrontier.com		e-Mail Address	Suzanne.Aguilar@hollyfrontier.com			I										
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-1 (API HC)	01/10/19	8:53 AM	Liquid	8	1	X										
2	S-3 (API Water)	01/10/19	9:13 AM	Liquid	8,1	1	X										
3	S-5 (T-40)	01/10/19	8:32 AM	Liquid	8	1	X										
4	S-6 (T-41)	01/10/19	8:35 AM	Liquid	8	1	X										
5	Field Blank	01/10/19	9:04 AM	Liquid	8,1	1	X										
6	EQ Blank Port 1	01/10/19	9:35 AM	Liquid	8,1	1	X										
7	EQ Blank Port 2	01/10/19	9:35 AM	Liquid	8,1	1	X										
8	Duplicate	01/10/19	XXX	Liquid	8,1	1	X										
9	Trip Blank	01/10/19	XXX	Liquid	8,1	2	X										
10	Temperature Blank	01/10/19		Liquid		1											
Sampler(s): Please Print & Sign <i>Brady Hubbard</i>			Shipment Method: <i>FedEx</i>		Required Turnaround Time:				Results Due Date:								
Relinquished by: <i>Brady Hubbard</i>			Date: <i>1/10/19</i>		Time: <i>4:00 pm</i>		Received by:				Notes:						
Relinquished by: <i>Brady Hubbard</i>			Date: <i>1/11/19</i>		Time: <i>09:00</i>		Received by (Laboratory): <i>S. M... ..</i>				Cooler Temp. <i>1.0</i>						
Logged by (Laboratory):			Date:		Time:		Checked by (Laboratory):				QC Package: (Check Box Below)						
											Level II: Standard QC						
											Level III: Std QC + Raw Data						
											Level IV: SW846 CLP-Like						
											Other: _____						
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																	

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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Forum JAN 11 2019

ALS Environmental 10450 Stanciliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5687 <i>Forum</i>	
CUSTODY SEAL Date: 1-10-19 Time: 4:00 Name: <i>Navajo Refining Co</i> Company: <i>NRC</i>	
Seal Broken By: <i>mm</i> Date: 01/11/19	

CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
 1. Fold the printed page along the horizontal line.
 2. Place label in shipping pouch and affix it to your shipment.

ORIGIN: BOMA (575) 840-7836 NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA, NM 88210 UNITED STATES US	SHIP DATE: 10 JAN 19 ACT/MGT: 35 00 18 JAN C/O: 0477389CAFEE3211 BILL RECEIPT
TO: COREY GRANDITS ALS 10450 STANCLIFF SUITE 210 HOUSTON TX 77099 REF: (281) 530-5656 DEPT:	
551C2D74C104C	

TKN# 7093 0859 0729 ABSGRA TX-US IAH 77099 ADG	FRI - 11 JAN 10:30A PRIORITY OVERNIGHT DANGER: Goods as per attached DSD-CAO
---	--



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 18, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19010542**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 4 sample(s) on Jan 11, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKELAWAL
Corey Grandits
Project Manager

ALS Houston, US

Date: 18-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19010542

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19010542-01	S-1 (API HC)	Liquid		10-Jan-2019 09:53	11-Jan-2019 09:00	☐
HS19010542-02	S-3 (API Water)	Liquid		10-Jan-2019 09:13	11-Jan-2019 09:00	☐
HS19010542-03	S-5 (T-40)	Liquid		10-Jan-2019 08:32	11-Jan-2019 09:00	☐
HS19010542-04	S-6 (T-41)	Liquid		10-Jan-2019 08:35	11-Jan-2019 09:00	☐

ALS Houston, US

Date: 18-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19010542

CASE NARRATIVE

Work Order Comments

- The analysis for Specific Gravity was subcontracted to ALS Environmental in Holland, MI. Final report attached.

ALS Houston, US

Date: 18-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-1 (API HC)
Collection Date: 10-Jan-2019 09:53

ANALYTICAL REPORT

WorkOrder:HS19010542
Lab ID:HS19010542-01
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC		Method:NA					Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	18-Jan-2019 09:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-3 (API Water)
Collection Date: 10-Jan-2019 09:13

ANALYTICAL REPORT

WorkOrder:HS19010542
Lab ID:HS19010542-02
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	18-Jan-2019 09:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-5 (T-40)
Collection Date: 10-Jan-2019 08:32

ANALYTICAL REPORT

WorkOrder:HS19010542
Lab ID:HS19010542-03
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	18-Jan-2019 09:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-6 (T-41)
Collection Date: 10-Jan-2019 08:35

ANALYTICAL REPORT

WorkOrder:HS19010542
Lab ID:HS19010542-04
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	18-Jan-2019 09:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19010542

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R331272	Test Name : SUBCONTRACTED ANALYSIS SPECIFIC GRAVITY			Matrix: Liquid		
HS19010542-01	S-1 (API HC)	10 Jan 2019 09:53			18 Jan 2019 09:41	1
HS19010542-02	S-3 (API Water)	10 Jan 2019 09:13			18 Jan 2019 09:41	1
HS19010542-03	S-5 (T-40)	10 Jan 2019 08:32			18 Jan 2019 09:41	1
HS19010542-04	S-6 (T-41)	10 Jan 2019 08:35			18 Jan 2019 09:41	1

ALS Houston, US

Date: 18-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19010542

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Houston, US

Date: 18-Jan-19

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019

ALS Houston, US

Date: 18-Jan-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19010542

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19010542-01	S-1 (API HC)	Login	1/12/2019 2:33:43 PM	JRM	WET255
HS19010542-02	S-3 (API Water)	Login	1/12/2019 2:33:43 PM	JRM	WET255
HS19010542-03	S-5 (T-40)	Login	1/12/2019 2:33:43 PM	JRM	WET255
HS19010542-04	S-6 (T-41)	Login	1/12/2019 2:33:43 PM	JRM	WET255

ALS Houston, US

Date: 18-Jan-19

Sample Receipt Checklist

Client Name: Navajo Refining

Date/Time Received: **11-Jan-2019 09:00**

Work Order: HS19010542

Received by: **JRM**Checklist completed by: Jared R. Makan
eSignature12-Jan-2019
DateReviewed by: Corey Grandits
eSignature14-Jan-2019
DateMatrices: **Liquid**Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☒
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	1.0c/1.4c UC/C IR11		
Cooler(s)/Kit(s):	Foam cooler		
Date/Time sample(s) sent to storage:	01/11/2019 20:40		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

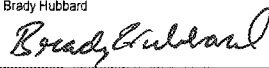
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+1 970 490 1511
 ☐ Middletown, PA
+1 717 944 5541
 ☐ York, PA
+1 717 505 5280

Customer Information			Project Information				Parameter/Method Request for Analysis											
Purchase Order			Project Name	BWON Monthly Sampling (EOL)			A	Specific Gravity										
Work Order			Project Number				B											
Company Name	Navajo Refining Company LLC		Bill To Company	Holly Frontier Navajo Refining LLC			C											
Send Report To	Tyler Turner Gabi Combs		Invoice Attn	Susie Aguilar			D											
Address	, P.O. Box 159 ,		Address	, 501 East Main ,			E	HS19010542 Navajo Refining Company BWON Monthly Sampling (EOL)										
City/State/Zip	Artesia, NM 88211-0159		City/State/Zip	Artesia, New Mexico 88210			F											
Phone	(575) 748-3311		Phone	(575) 748-3311			G											
Fax	(575) 746-5451		Fax	(575) 746-5451			H											
e-Mail Address	tturner.am@gmail.com Gabiela.Combs@hollyfrontier.com		e-Mail Address	Suzanne.Aguilar@hollyfrontier.com			I											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
1	S-1 (API HC)	01/10/19	9:53 AM	Liquid	8	1	X											
2	S-3 (API Water)	01/10/19	9:13 AM	Liquid	8	1	X											
3	S-5 (T-40)	01/10/19	8:32 AM	Liquid	8	1	X											
4	S-6 (T-41)	01/10/19	8:35 AM	Liquid	8	1	X											
5																		
6																		
7																		
8																		
9																		
10																		
Sampler(s): Please Print & Sign <i>Brady Hubbard</i>			Shipment Method: <i>FedEx</i>		Required Turnaround Time: ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour				Results Due Date:									
Relinquished by: <i>Brady Hubbard</i>		Date: <i>1-10-19</i>	Time: <i>4:00</i>	Received by:			Notes:											
Relinquished by: <i>Brady Hubbard</i>		Date: <i>1/11/19</i>	Time: <i>09:00</i>	Received by (Laboratory): <i>S. Wynn</i>			Cooler Temp. <i>UC</i>	QC Package: (Check Box Below)										
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):			<i>1.0</i>	Level II: Standard QC		Level III: Std QC + Raw Data		Level IV: SW846 CLP-Like		Other: <i>FOAM COLOR</i>				
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																		

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590729 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Stancliff Suite 210 HOUSTON TX 77099 US		FedEx Express FX 18 Compliant CAFE3211	
Two completed and signed copies of this Declaration must be handed to the operator		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS This shipment is within the limitations prescribed for: (delete non applicable) CARGO AIRCRAFT ONLY		Shipment type: (delete non applicable) NON-RADIOACTIVE	
Transport Details Airport of Departure: ARTESIA Airport of Destination: HOUSTON AMSGRA			
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or Identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 3266, Corrosive liquid, basic, inorganic, n.o.s.(Sodium Hydroxide), 8, I/ 0.08 L/854 UN 1268, Petroleum distillates, n.o.s., 3, III/ 0.04 L/366 All Packed In One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 01/10/2019 Signature (see warning above) Brady Hubbard 	
18004249300 Emergency Telephone Number			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

LOGOS #157295 1/12

Page 15 of 25

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1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

ORIGINAL DTD:OWA (573) 946-7838 NAYALO REFINING COMPANY 501 E MAIN ARTESIA, NM 88210 UNITED STATES US		SHIP DATE: 10JAN19 ACTWGT: 35.00 LB MAIN CADD: 04/7185CAF3211
TO: COREY GRANDITS AL5 10450 STANCLIFF SUITE 210 HOUSTON TX 77099 (281) 530-5656 REF:		BILL RECIPIENT
FROM: AB SGRA TX#4 77093 0859 0729 ADG 77099 IAH TX-US		DEPT:
DANGEROUS GOODS AS PER ATTACHED DSD-CAO FRI - 11 JAN 10:30A PRIORITY OVERNIGHT ADG		561C2074C104C



18-Jan-2019

Corey Grandits
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19010542**

Work Order: **1901729**

Dear Corey,

ALS Environmental received 4 samples on 15-Jan-2019 12:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP. Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

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RIGHT SOLUTIONS | RIGHT PARTNER

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RIGHT SOLUTIONS | RIGHT PARTNER

HFNA-000002929

ALS Group, USA

Date: 18-Jan-19

Client: ALS Environmental**Project:** HS19010542**Work Order:** 1901729**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1901729-01	HS19010542-01	Liquid	S-1 (API HC)	1/10/2019 09:53	1/15/2019 12:00	☐
1901729-02	HS19010542-02	Liquid	S-3 (API Water)	1/10/2019 09:13	1/15/2019 12:00	☐
1901729-03	HS19010542-03	Liquid	S-5 (T-40)	1/10/2019 08:32	1/15/2019 12:00	☐
1901729-04	HS19010542-04	Liquid	S-6 (T-41)	1/10/2019 08:35	1/15/2019 12:00	☐

ALS Group, USA

Date: 18-Jan-19

Client: ALS Environmental
Project: HS19010542
WorkOrder: 1901729

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
none	

ALS Group, USA**Date:** 18-Jan-19

Client: ALS Environmental
Project: HS19010542
Sample ID: HS19010542-01
Collection Date: 1/10/2019 09:53 AM

Work Order: 1901729
Lab ID: 1901729-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	0.944			none	1	1/17/2019 01:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 18-Jan-19

Client: ALS Environmental
Project: HS19010542
Sample ID: HS19010542-02
Collection Date: 1/10/2019 09:13 AM

Work Order: 1901729
Lab ID: 1901729-02
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.01			none	1	1/17/2019 01:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 18-Jan-19

Client: ALS Environmental
Project: HS19010542
Sample ID: HS19010542-03
Collection Date: 1/10/2019 08:32 AM

Work Order: 1901729
Lab ID: 1901729-03
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.15			none	1	1/17/2019 01:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 18-Jan-19

Client: ALS Environmental
Project: HS19010542
Sample ID: HS19010542-04
Collection Date: 1/10/2019 08:35 AM

Work Order: 1901729
Lab ID: 1901729-04
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.14			none	1	1/17/2019 01:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 18-Jan-19

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1901729

Project: HS19010542

Batch ID: **R253305**Instrument ID **WETCHEM**Method: **D5057-90**

DUP	Sample ID: 1901550-01A DUP					Units: none	Analysis Date: 1/17/2019 01:15 PM			
Client ID:	Run ID: WETCHEM_190117K					SeqNo: 5484733	Prep Date:	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	1.001	0	0	0	0	0-0	1.001	0.02	20	

DUP	Sample ID: 1901729-02A DUP					Units: none	Analysis Date: 1/17/2019 01:15 PM			
Client ID: HS19010542-02	Run ID: WETCHEM_190117K					SeqNo: 5484748	Prep Date:	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	0.9931	0	0	0	0	0-0	1.01	1.71	20	

The following samples were analyzed in this batch:

1901729-01A	1901729-02A	1901729-03A
1901729-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

1901729



10450 Stancliff Rd, Ste 210
Houston, TX 77099
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www.alsglobal.com

Subcontract Chain of Custody

COC ID: 10595

SUBCONTRACT TO:

ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: Corey Grandits
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: Corey.Grandits@alsglobal.com
Alternate Contact: Jumoke M. Lawal
Email: jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19010542
TSR: Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19010542-01	S-1 (API HC)	Liquid	10 Jan 2019 09:53
	Sub Specific Gravity to ALS Holland			18 Jan 2019
2.	HS19010542-02	S-3 (API Water)	Liquid	10 Jan 2019 09:13
	Sub Specific Gravity to ALS Holland			18 Jan 2019
3.	HS19010542-03	S-5 (T-40)	Liquid	10 Jan 2019 08:32
	Sub Specific Gravity to ALS Holland			18 Jan 2019
4.	HS19010542-04	S-6 (T-41)	Liquid	10 Jan 2019 08:35
	Sub Specific Gravity to ALS Holland			18 Jan 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By:

J. M. Lawal

Date/Time:

1/14/19 18:00

Received By:

[Signature]

Date/Time:

1/15/19 1200

Cooler ID(s):

[Signature]

Temperature(s):

[Signature]

RIGHT SOLUTIONS | RIGHT PARTNER

4.8°C SR2
Puis

2

ALS Group, USA

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**Date/Time Received: **15-Jan-19 12:00**Work Order: **1901729**Received by: **KRW**Checklist completed by *Chad Whilton*
eSignature15-Jan-19
DateReviewed by: *Chad Whilton*
eSignature15-Jan-19
DateMatrices: **Liquid**Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒No ☐Not Present ☐

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

Chain of custody signed when relinquished and received?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Sample(s) received on ice?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

4.0/4.0 C

SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

1/15/2019 3:09:08 PM

Water - VOA vials have zero headspace?

Yes ☐No ☐No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐No ☐N/A ☒

pH adjusted?

Yes ☐No ☐N/A ☒

pH adjusted by:

-

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10450 Stancliff Rd. Suite 210
Houston, TX 77099
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February 18, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19020431**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 9 sample(s) on Feb 08, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKELAWAL
Corey Grandits
Project Manager

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19020431

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19020431-01	S-1 (API HC)	Liquid		07-Feb-2019 09:08	08-Feb-2019 09:00	☐
HS19020431-02	S-3 (API Water)	Liquid		07-Feb-2019 09:25	08-Feb-2019 09:00	☐
HS19020431-03	S-5 (T-40)	Liquid		07-Feb-2019 08:46	08-Feb-2019 09:00	☐
HS19020431-04	S-6 (T-41)	Liquid		07-Feb-2019 08:51	08-Feb-2019 09:00	☐
HS19020431-05	Field Blank	Water		07-Feb-2019 09:21	08-Feb-2019 09:00	☐
HS19020431-06	EQ Blank Port 1	Water		07-Feb-2019 09:40	08-Feb-2019 09:00	☐
HS19020431-07	EQ Blank Port 2	Water		07-Feb-2019 09:40	08-Feb-2019 09:00	☐
HS19020431-08	Duplicate	Liquid		07-Feb-2019 00:00	08-Feb-2019 09:00	☐
HS19020431-09	Trip Blank	Water		07-Feb-2019 00:00	08-Feb-2019 09:00	☐

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19020431

CASE NARRATIVE

GCMS Volatiles by Method SW8260**Batch ID: R332681,R332699,R332762,R332986**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R332646**Sample ID: S-5 (T-40) (HS19020431-03)**

- Lowest practical dilution for HS19020431-03 due to sample matrix. Surrogate failure due to matrix.

Sample ID: S-6 (T-41) (HS19020431-04)

- Lowest practical dilution for HS19020431-04 due to sample matrix
-

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-1 (API HC)
 Collection Date: 07-Feb-2019 09:08

ANALYTICAL REPORT

WorkOrder:HS19020431
 Lab ID:HS19020431-01
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260					Analyst: WLR
Benzene	5.5		0.024	0.24	mg/Kg	50	12-Feb-2019 17:41
<i>Surr: 1,2-Dichloroethane-d4</i>	93.9			70-126	%REC	50	12-Feb-2019 17:41
<i>Surr: 4-Bromofluorobenzene</i>	96.8			70-130	%REC	50	12-Feb-2019 17:41
<i>Surr: Dibromofluoromethane</i>	90.4			70-130	%REC	50	12-Feb-2019 17:41
<i>Surr: Toluene-d8</i>	104			70-130	%REC	50	12-Feb-2019 17:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-3 (API Water)
 Collection Date: 07-Feb-2019 09:25

ANALYTICAL REPORT

WorkOrder:HS19020431
 Lab ID:HS19020431-02
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	0.46		0.030	0.25	mg/L	50	15-Feb-2019 16:07
<i>Surr: 1,2-Dichloroethane-d4</i>	87.9			70-126	%REC	50	15-Feb-2019 16:07
<i>Surr: 4-Bromofluorobenzene</i>	97.1			82-124	%REC	50	15-Feb-2019 16:07
<i>Surr: Dibromofluoromethane</i>	93.4			77-123	%REC	50	15-Feb-2019 16:07
<i>Surr: Toluene-d8</i>	98.3			82-127	%REC	50	15-Feb-2019 16:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-5 (T-40)
 Collection Date: 07-Feb-2019 08:46

ANALYTICAL REPORT

WorkOrder:HS19020431
 Lab ID:HS19020431-03
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260		Analyst: WLR			
Benzene	< 0.024		0.024	0.24	mg/Kg	50	11-Feb-2019 22:54
Surr: 1,2-Dichloroethane-d4	92.5			70-126	%REC	50	11-Feb-2019 22:54
Surr: 4-Bromofluorobenzene	103			70-130	%REC	50	11-Feb-2019 22:54
Surr: Dibromofluoromethane	68.9	S		70-130	%REC	50	11-Feb-2019 22:54
Surr: Toluene-d8	97.4			70-130	%REC	50	11-Feb-2019 22:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-6 (T-41)
 Collection Date: 07-Feb-2019 08:51

ANALYTICAL REPORT

WorkOrder:HS19020431
 Lab ID:HS19020431-04
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260					Analyst: WLR
Benzene	0.21	J	0.024	0.24	mg/Kg	50	11-Feb-2019 23:19
<i>Surr: 1,2-Dichloroethane-d4</i>	98.2			70-126	%REC	50	11-Feb-2019 23:19
<i>Surr: 4-Bromofluorobenzene</i>	100			70-130	%REC	50	11-Feb-2019 23:19
<i>Surr: Dibromofluoromethane</i>	77.3			70-130	%REC	50	11-Feb-2019 23:19
<i>Surr: Toluene-d8</i>	97.0			70-130	%REC	50	11-Feb-2019 23:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Field Blank
 Collection Date: 07-Feb-2019 09:21

ANALYTICAL REPORT

WorkOrder:HS19020431
 Lab ID:HS19020431-05
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	12-Feb-2019 10:18
Surr: 1,2-Dichloroethane-d4	86.5			70-126	%REC	1	12-Feb-2019 10:18
Surr: 4-Bromofluorobenzene	99.8			82-124	%REC	1	12-Feb-2019 10:18
Surr: Dibromofluoromethane	94.1			77-123	%REC	1	12-Feb-2019 10:18
Surr: Toluene-d8	95.1			82-127	%REC	1	12-Feb-2019 10:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: EQ Blank Port 1
Collection Date: 07-Feb-2019 09:40

ANALYTICAL REPORT
WorkOrder:HS19020431
Lab ID:HS19020431-06
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method:SW8260						Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	12-Feb-2019 10:42
Surr: 1,2-Dichloroethane-d4	85.9			70-126	%REC	1	12-Feb-2019 10:42
Surr: 4-Bromofluorobenzene	97.9			82-124	%REC	1	12-Feb-2019 10:42
Surr: Dibromofluoromethane	93.6			77-123	%REC	1	12-Feb-2019 10:42
Surr: Toluene-d8	97.6			82-127	%REC	1	12-Feb-2019 10:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: EQ Blank Port 2
Collection Date: 07-Feb-2019 09:40

ANALYTICAL REPORT

WorkOrder:HS19020431
Lab ID:HS19020431-07
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260				Analyst: PC	
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	12-Feb-2019 16:29
Surr: 1,2-Dichloroethane-d4	86.4			70-126	%REC	1	12-Feb-2019 16:29
Surr: 4-Bromofluorobenzene	97.2			82-124	%REC	1	12-Feb-2019 16:29
Surr: Dibromofluoromethane	92.5			77-123	%REC	1	12-Feb-2019 16:29
Surr: Toluene-d8	97.3			82-127	%REC	1	12-Feb-2019 16:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Duplicate
 Collection Date: 07-Feb-2019 00:00

ANALYTICAL REPORT

WorkOrder:HS19020431
 Lab ID:HS19020431-08
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	0.43		0.030	0.25	mg/L	50	15-Feb-2019 16:31
<i>Surr: 1,2-Dichloroethane-d4</i>	87.8			70-126	%REC	50	15-Feb-2019 16:31
<i>Surr: 4-Bromofluorobenzene</i>	99.7			82-124	%REC	50	15-Feb-2019 16:31
<i>Surr: Dibromofluoromethane</i>	94.4			77-123	%REC	50	15-Feb-2019 16:31
<i>Surr: Toluene-d8</i>	95.4			82-127	%REC	50	15-Feb-2019 16:31

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Trip Blank
 Collection Date: 07-Feb-2019 00:00

ANALYTICAL REPORT

WorkOrder:HS19020431
 Lab ID:HS19020431-09
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	12-Feb-2019 16:53
Surr: 1,2-Dichloroethane-d4	86.1			70-126	%REC	1	12-Feb-2019 16:53
Surr: 4-Bromofluorobenzene	96.6			82-124	%REC	1	12-Feb-2019 16:53
Surr: Dibromofluoromethane	93.0			77-123	%REC	1	12-Feb-2019 16:53
Surr: Toluene-d8	97.5			82-127	%REC	1	12-Feb-2019 16:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19020431

Batch ID: 2910 **Method:** VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS19020431-01	1	5.127 (g)	5 (mL)	0.98	Bulk (5030B)
HS19020431-03	1	5.16 (g)	5 (mL)	0.97	Bulk (5030B)
HS19020431-04	1	5.188 (g)	5 (mL)	0.96	Bulk (5030B)

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19020431

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R332646 Test Name : VOLATILES BY SW8260C Matrix: Liquid						
HS19020431-03	S-5 (T-40)	07 Feb 2019 08:46			11 Feb 2019 22:54	50
HS19020431-04	S-6 (T-41)	07 Feb 2019 08:51			11 Feb 2019 23:19	50
Batch ID R332681 Test Name : VOLATILES BY SW8260C Matrix: Liquid						
HS19020431-01	S-1 (API HC)	07 Feb 2019 09:08			12 Feb 2019 17:41	50
Batch ID R332699 Test Name : VOLATILES - SW8260C Matrix: Water						
HS19020431-05	Field Blank	07 Feb 2019 09:21			12 Feb 2019 10:18	1
HS19020431-06	EQ Blank Port 1	07 Feb 2019 09:40			12 Feb 2019 10:42	1
Batch ID R332762 Test Name : VOLATILES - SW8260C Matrix: Water						
HS19020431-07	EQ Blank Port 2	07 Feb 2019 09:40			12 Feb 2019 16:29	1
HS19020431-09	Trip Blank	07 Feb 2019 00:00			12 Feb 2019 16:53	1
Batch ID R332986 Test Name : VOLATILES - SW8260C Matrix: Liquid						
HS19020431-02	S-3 (API Water)	07 Feb 2019 09:25			15 Feb 2019 16:07	50
HS19020431-08	Duplicate	07 Feb 2019 00:00			15 Feb 2019 16:31	50

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19020431

QC BATCH REPORT

Batch ID: R332646		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: MBLKW1-021119	Units: ug/Kg		Analysis Date: 11-Feb-2019 14:08					
Client ID:	Run ID: VOA8_332646	SeqNo: 4944906		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2859	0	2500	0	114	76 - 125			
Surr: 4-Bromofluorobenzene	2473	0	2500	0	98.9	80 - 120			
Surr: Dibromofluoromethane	2576	0	2500	0	103	80 - 119			
Surr: Toluene-d8	2643	0	2500	0	106	81 - 118			

LCS	Sample ID: VLCSW1-021119	Units: ug/Kg		Analysis Date: 11-Feb-2019 13:18					
Client ID:	Run ID: VOA8_332646	SeqNo: 4944905		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	46.92	5.0	50	0	93.8	75 - 124			
Surr: 1,2-Dichloroethane-d4	46.99	0	50	0	94.0	76 - 125			
Surr: 4-Bromofluorobenzene	50.17	0	50	0	100	80 - 120			
Surr: Dibromofluoromethane	50.53	0	50	0	101	80 - 119			
Surr: Toluene-d8	49.17	0	50	0	98.3	81 - 118			

MS	Sample ID: HS19011582-02MS	Units: ug/Kg		Analysis Date: 11-Feb-2019 17:04					
Client ID:	Run ID: VOA8_332646	SeqNo: 4945581		PrepDate:		DF: 500			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	20400	1900	19250	216.2	105	70 - 130			
Surr: 1,2-Dichloroethane-d4	18040	0	19250	0	93.7	70 - 126			
Surr: 4-Bromofluorobenzene	18770	0	19250	0	97.5	70 - 130			
Surr: Dibromofluoromethane	18990	0	19250	0	98.6	70 - 130			
Surr: Toluene-d8	18700	0	19250	0	97.1	70 - 130			

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19020431

QC BATCH REPORT

Batch ID: R332646		Instrument: VOA8		Method: SW8260						
MSD	Sample ID: HS19011582-02MSD	Units: ug/Kg			Analysis Date: 11-Feb-2019 17:29					
Client ID:	Run ID: VOA8_332646	SeqNo: 4945582			PrepDate:		DF: 500			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	21380	1900	19250	216.2	110	70 - 130	20400	4.7	30	
Surr: 1,2-Dichloroethane-d4	17420	0	19250	0	90.5	70 - 126	18040	3.45	30	
Surr: 4-Bromofluorobenzene	19850	0	19250	0	103	70 - 130	18770	5.6	30	
Surr: Dibromofluoromethane	18620	0	19250	0	96.7	70 - 130	18990	1.97	30	
Surr: Toluene-d8	19230	0	19250	0	99.9	70 - 130	18700	2.81	30	
The following samples were analyzed in this batch:		HS19020431-03		HS19020431-04						

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19020431

QC BATCH REPORT

Batch ID: R332681		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: MBLKW1-021219	Units: ug/Kg		Analysis Date: 12-Feb-2019 10:12					
Client ID:	Run ID: VOA8_332681	SeqNo: 4945869		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2687	0	2500	0	107	76 - 125			
Surr: 4-Bromofluorobenzene	2524	0	2500	0	101	80 - 120			
Surr: Dibromofluoromethane	2508	0	2500	0	100	80 - 119			
Surr: Toluene-d8	2565	0	2500	0	103	81 - 118			

LCS	Sample ID: VLCSW1-021219	Units: ug/Kg		Analysis Date: 12-Feb-2019 09:22					
Client ID:	Run ID: VOA8_332681	SeqNo: 4945868		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	42.79	5.0	50	0	85.6	75 - 124			
Surr: 1,2-Dichloroethane-d4	46.34	0	50	0	92.7	76 - 125			
Surr: 4-Bromofluorobenzene	49.09	0	50	0	98.2	80 - 120			
Surr: Dibromofluoromethane	50.35	0	50	0	101	80 - 119			
Surr: Toluene-d8	49.69	0	50	0	99.4	81 - 118			

MS	Sample ID: HS19020429-01MS	Units: ug/Kg		Analysis Date: 12-Feb-2019 12:17					
Client ID:	Run ID: VOA8_332681	SeqNo: 4946400		PrepDate:		DF: 50000			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	4216000	250000	2.5e+006	1722000	99.7	70 - 130			
Surr: 1,2-Dichloroethane-d4	2332000	0	2.5e+006	0	93.3	70 - 126			
Surr: 4-Bromofluorobenzene	2402000	0	2.5e+006	0	96.1	70 - 130			
Surr: Dibromofluoromethane	2497000	0	2.5e+006	0	99.9	70 - 130			
Surr: Toluene-d8	2534000	0	2.5e+006	0	101	70 - 130			

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19020431

QC BATCH REPORT

Batch ID: R332681		Instrument: VOA8		Method: SW8260					
MSD	Sample ID: HS19020429-01MSD	Units: ug/Kg			Analysis Date: 12-Feb-2019 12:42				
Client ID:	Run ID: VOA8_332681	SeqNo: 4946401		PrepDate:		DF: 50000			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Benzene	4185000	250000	2.5e+006	1722000	98.5	70 - 130	4216000	0.736	30
Surr: 1,2-Dichloroethane-d4	2245000	0	2.5e+006	0	89.8	70 - 126	2332000	3.83	30
Surr: 4-Bromofluorobenzene	2455000	0	2.5e+006	0	98.2	70 - 130	2402000	2.19	30
Surr: Dibromofluoromethane	2438000	0	2.5e+006	0	97.5	70 - 130	2497000	2.38	30
Surr: Toluene-d8	2481000	0	2.5e+006	0	99.2	70 - 130	2534000	2.12	30

The following samples were analyzed in this batch: HS19020431-01

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19020431

QC BATCH REPORT

Batch ID: R332699		Instrument: VOA6		Method: SW8260						
MBLK	Sample ID: VBLKW-190211	Units: ug/L			Analysis Date: 12-Feb-2019 01:04					
Client ID:	Run ID: VOA6_332699	SeqNo: 4946079			PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	< 0.60	5.0								
Surr: 1,2-Dichloroethane-d4	44.55	0	50	0	89.1	70 - 130				
Surr: 4-Bromofluorobenzene	48.48	0	50	0	97.0	82 - 115				
Surr: Dibromofluoromethane	47.15	0	50	0	94.3	73 - 126				
Surr: Toluene-d8	49.21	0	50	0	98.4	81 - 120				
LCS	Sample ID: VLCSW-190211	Units: ug/L			Analysis Date: 12-Feb-2019 00:16					
Client ID:	Run ID: VOA6_332699	SeqNo: 4946078			PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19.46	5.0	20	0	97.3	74 - 120				
Surr: 1,2-Dichloroethane-d4	44.14	0	50	0	88.3	70 - 130				
Surr: 4-Bromofluorobenzene	49.62	0	50	0	99.2	82 - 115				
Surr: Dibromofluoromethane	48.02	0	50	0	96.0	73 - 126				
Surr: Toluene-d8	48.72	0	50	0	97.4	81 - 120				
MS	Sample ID: HS19020131-01MS	Units: ug/L			Analysis Date: 12-Feb-2019 01:52					
Client ID:	Run ID: VOA6_332699	SeqNo: 4946081			PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	20.57	5.0	20	0	103	70 - 127				
Surr: 1,2-Dichloroethane-d4	43.86	0	50	0	87.7	70 - 126				
Surr: 4-Bromofluorobenzene	48.28	0	50	0	96.6	82 - 124				
Surr: Dibromofluoromethane	47.71	0	50	0	95.4	77 - 123				
Surr: Toluene-d8	49.68	0	50	0	99.4	82 - 127				

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19020431

QC BATCH REPORT

Batch ID: R332699		Instrument: VOA6		Method: SW8260						
MSD	Sample ID: HS19020131-01MSD	Units: ug/L			Analysis Date: 12-Feb-2019 02:16					
Client ID:	Run ID: VOA6_332699	SeqNo: 4946082		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Benzene	19.94	5.0	20	0	99.7	70 - 127	20.57	3.1	20	
Surr: 1,2-Dichloroethane-d4	43.46	0	50	0	86.9	70 - 126	43.86	0.921	20	
Surr: 4-Bromofluorobenzene	49.53	0	50	0	99.1	82 - 124	48.28	2.56	20	
Surr: Dibromofluoromethane	47.34	0	50	0	94.7	77 - 123	47.71	0.774	20	
Surr: Toluene-d8	48.22	0	50	0	96.4	82 - 127	49.68	2.99	20	
The following samples were analyzed in this batch:		HS19020431-05		HS19020431-06						

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19020431

QC BATCH REPORT

Batch ID: R332762		Instrument: VOA6		Method: SW8260						
MBLK	Sample ID: VBLKW-190212	Units: ug/L			Analysis Date: 12-Feb-2019 13:40					
Client ID:	Run ID: VOA6_332762			SeqNo: 4947689		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	< 0.60	5.0								
Surr: 1,2-Dichloroethane-d4	43.28	0	50	0	86.6	70 - 130				
Surr: 4-Bromofluorobenzene	48.21	0	50	0	96.4	82 - 115				
Surr: Dibromofluoromethane	46.64	0	50	0	93.3	73 - 126				
Surr: Toluene-d8	48.57	0	50	0	97.1	81 - 120				
LCS	Sample ID: VLCSW-190212	Units: ug/L			Analysis Date: 12-Feb-2019 12:52					
Client ID:	Run ID: VOA6_332762			SeqNo: 4947688		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	18.26	5.0	20	0	91.3	74 - 120				
Surr: 1,2-Dichloroethane-d4	42.61	0	50	0	85.2	70 - 130				
Surr: 4-Bromofluorobenzene	47.72	0	50	0	95.4	82 - 115				
Surr: Dibromofluoromethane	47.29	0	50	0	94.6	73 - 126				
Surr: Toluene-d8	49.32	0	50	0	98.6	81 - 120				
MS	Sample ID: HS19020369-01MS	Units: ug/L			Analysis Date: 12-Feb-2019 14:53					
Client ID:	Run ID: VOA6_332762			SeqNo: 4947692		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	20.51	5.0	20	0	103	70 - 127				
Surr: 1,2-Dichloroethane-d4	43.13	0	50	0	86.3	70 - 126				
Surr: 4-Bromofluorobenzene	48.79	0	50	0	97.6	82 - 124				
Surr: Dibromofluoromethane	47.1	0	50	0	94.2	77 - 123				
Surr: Toluene-d8	49.49	0	50	0	99.0	82 - 127				

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19020431

QC BATCH REPORT

Batch ID: R332762		Instrument: VOA6		Method: SW8260						
MSD	Sample ID: HS19020369-01MSD	Units: ug/L			Analysis Date: 12-Feb-2019 15:17					
Client ID:	Run ID: VOA6_332762	SeqNo: 4947693			PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
Benzene	19.54	5.0	20	0	97.7	70 - 127	20.51	4.83	20	
Surr: 1,2-Dichloroethane-d4	43.69	0	50	0	87.4	70 - 126	43.13	1.28	20	
Surr: 4-Bromofluorobenzene	49.59	0	50	0	99.2	82 - 124	48.79	1.63	20	
Surr: Dibromofluoromethane	47.71	0	50	0	95.4	77 - 123	47.1	1.28	20	
Surr: Toluene-d8	48.11	0	50	0	96.2	82 - 127	49.49	2.83	20	
The following samples were analyzed in this batch:		HS19020431-07		HS19020431-09						

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19020431

QC BATCH REPORT

Batch ID: R332986		Instrument: VOA6		Method: SW8260						
MBLK		Sample ID: VBLKW-190215		Units: ug/L		Analysis Date: 15-Feb-2019 12:30				
Client ID:		Run ID: VOA6_332986		SeqNo: 4952463		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	< 0.60	5.0								
Surr: 1,2-Dichloroethane-d4	43.57	0	50	0	87.1	70 - 130				
Surr: 4-Bromofluorobenzene	49.02	0	50	0	98.0	82 - 115				
Surr: Dibromofluoromethane	47.09	0	50	0	94.2	73 - 126				
Surr: Toluene-d8	48.27	0	50	0	96.5	81 - 120				

LCS		Sample ID: VLCSW-190215		Units: ug/L		Analysis Date: 15-Feb-2019 11:42				
Client ID:		Run ID: VOA6_332986		SeqNo: 4952462		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	18.29	5.0	20	0	91.5	74 - 120				
Surr: 1,2-Dichloroethane-d4	43.43	0	50	0	86.9	70 - 130				
Surr: 4-Bromofluorobenzene	49.96	0	50	0	99.9	82 - 115				
Surr: Dibromofluoromethane	47.65	0	50	0	95.3	73 - 126				
Surr: Toluene-d8	48.08	0	50	0	96.2	81 - 120				

MS		Sample ID: HS19020270-01MS		Units: ug/L		Analysis Date: 15-Feb-2019 15:18				
Client ID:		Run ID: VOA6_332986		SeqNo: 4952468		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	20.15	5.0	20	0	101	70 - 127				
Surr: 1,2-Dichloroethane-d4	43.32	0	50	0	86.6	70 - 126				
Surr: 4-Bromofluorobenzene	48.59	0	50	0	97.2	82 - 124				
Surr: Dibromofluoromethane	47.44	0	50	0	94.9	77 - 123				
Surr: Toluene-d8	48.76	0	50	0	97.5	82 - 127				

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19020431

QC BATCH REPORT

Batch ID: R332986		Instrument: VOA6		Method: SW8260						
MSD	Sample ID: HS19020270-01MSD	Units: ug/L			Analysis Date: 15-Feb-2019 15:42					
Client ID:	Run ID: VOA6_332986	SeqNo: 4952469		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19.74	5.0	20	0	98.7	70 - 127	20.15	2.05	20	
Surr: 1,2-Dichloroethane-d4	43.73	0	50	0	87.5	70 - 126	43.32	0.929	20	
Surr: 4-Bromofluorobenzene	49.43	0	50	0	98.9	82 - 124	48.59	1.71	20	
Surr: Dibromofluoromethane	47.29	0	50	0	94.6	77 - 123	47.44	0.33	20	
Surr: Toluene-d8	48.07	0	50	0	96.1	82 - 127	48.76	1.41	20	
The following samples were analyzed in this batch:		HS19020431-02		HS19020431-08						

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19020431

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

ALS Houston, US

Date: 18-Feb-19

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
California	2919, 2018-2019	30-Apr-2019
Maryland	343, 2018-2019	30-Jun-2019

ALS Houston, US

Date: 18-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19020431

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19020431-01	S-1 (API HC)	Login	2/8/2019 3:02:47 PM	PMG	VOA060
HS19020431-02	S-3 (API Water)	Login	2/8/2019 3:02:47 PM	PMG	VOA060
HS19020431-03	S-5 (T-40)	Login	2/8/2019 3:02:47 PM	PMG	VOA060
HS19020431-04	S-6 (T-41)	Login	2/8/2019 3:02:47 PM	PMG	VOA060
HS19020431-05	Field Blank	Login	2/8/2019 3:02:47 PM	PMG	VOA060
HS19020431-06	EQ Blank Port 1	Login	2/8/2019 3:02:47 PM	PMG	VOA060
HS19020431-07	EQ Blank Port 2	Login	2/8/2019 3:02:47 PM	PMG	VOA060
HS19020431-08	Duplicate	Login	2/8/2019 3:02:47 PM	PMG	VOA060
HS19020431-09	Trip Blank	Login	2/8/2019 3:02:47 PM	PMG	VOA060

ALS Houston, US

Date: 18-Feb-19

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS19020431

Date/Time Received: **08-Feb-2019 09:00**
Received by: **NDR**

Checklist completed by: Paresh M. Giga 8-Feb-2019
eSignature Date

Reviewed by: Corey Grandits 13-Feb-2019
eSignature Date

Matrices: **Soil/water**Carrier name: **FedEx**

Shipping container/cooler in good condition?
Custody seals intact on shipping container/cooler?
Custody seals intact on sample bottles?
VOA/TX1005/TX1006 Solids in hermetically sealed vials?
Chain of custody present?
Chain of custody signed when relinquished and received?
Samplers name present on COC?
Chain of custody agrees with sample labels?
Samples in proper container/bottle?
Sample containers intact?
Sufficient sample volume for indicated test?
All samples received within holding time?
Container/Temp Blank temperature in compliance?

Yes ☒	No ☐	Not Present ☐
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☒	No ☐	1 Page(s)
Yes ☒	No ☐	COC IDs:None
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	

Temperature(s)/Thermometer(s):

0.8c/1.1c U/C

IR25

Cooler(s)/Kit(s):

Hazmatpac

Date/Time sample(s) sent to storage:

2/8/19 15:20

Water - VOA vials have zero headspace?

Yes ☒	No ☐	No VOA vials submitted ☐
---	-----------------------------	---

Water - pH acceptable upon receipt?

Yes ☒	No ☐	N/A ☐
---	-----------------------------	------------------------------

pH adjusted?

Yes ☐	No ☒	N/A ☐
------------------------------	--	------------------------------

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

Page 1 of 1

HS19020431

Navajo Refining Company
BWON Monthly Sampling (EOL)UT
'00
'03
80

ALS Project Manager: Erica Padilla

Project Information

Parameter/Method Request for Analysis

Project Name: BWON Monthly Sampling (EOL)

A VOLATILES (8260) Benzene

Project Number

B

Bill To Company: Holly Frontier Navajo Refining LLC

C

Send Report To: Tyler Turner Gabi Combs

Invoice Attn: Susie Aguilar

D

Address: P.O. Box 159

Address: 501 East Main

E

City/State/Zip: Artesia, NM 88211-0159

City/State/Zip: Artesia, New Mexico 88210

F

Phone: (575) 748-3311

Phone: (575) 748-3311

G

Fax: (575) 746-5451

Fax: (575) 746-5451

H

e-Mail Address: tturner.am@gmail.com
Gabiela.Combs@hollyfrontier.com

e-Mail Address: Suzanne.Aguilar@hollyfrontier.com

J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-1 (API HC)	02/07/19	9:08 AM	Liquid	8	1	X										
2	S-3 (API Water)	02/07/19	9:25 AM	Liquid	8,1	1	X										
3	S-5 (T-40)	02/07/19	8:46 AM	Liquid	8	1	X										
4	S-6 (T-41)	02/07/19	8:51 AM	Liquid	8	1	X										
5	Field Blank	02/07/19	9:21 AM	Liquid	8,1	1	X										
6	EQ Blank Port 1	02/07/19	9:40 AM	Liquid	8,1	1	X										
7	EQ Blank Port 2	02/07/19	9:40 AM	Liquid	8,1	1	X										
8	Duplicate	02/07/19	XXX	Liquid	8,1	1	X										
9	Trip Blank	02/07/19	XXX	Liquid	8,1	2	X										
10	Temperature Blank	02/07/19		Liquid		1											

Sampler(s): Please Print & Sign *Brady Hubbard*
*Brady Hubbard*Shipment Method: *FedEx*

Required Turnaround Time:

☐ STD 10 Wk Days
 ☒ 5 Wk Days
 ☐ 2 Wk Days
 ☐ 24 Hour

Other _____

Results Due Date: _____

Relinquished by: *Brady Hubbard*

Date:

2-7-19

Time:

4:00 pm

Received by:

Notes:

Relinquished by:

Date:

Time:

Received by (Laboratory):

Cooler Temp.

QC Package: (Check Box Below)

Logged by (Laboratory):

Date:

Time:

Checked by (Laboratory):

Level II: Standard QC

TRRP-Checklist

Level III: Std QC + Raw Data

TRRP Level IV

Level IV: SW846 CLP-Like

Other: _____

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590740 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Standcliff Suite 210 HOUSTON TX 77099 US		FedEx FX 18 Compliant Express CAFE3211	
<i>Two completed and signed copies of this Declaration must be handed to the operator</i>		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS			
This shipment is within the limitations prescribed for: (delete non applicable)	Airport of Departure ARTESIA		
			
Airport of Destination: HOUSTON ABSGRA		Shipment type: (delete non applicable) NON-RADIOACTIVE	
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or Identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 3266, Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide), 8, I// 0.08 L/854 UN 1268, Petroleum distillates, n.o.s., 3, III// 0.04 L/366 All Packed In One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 02/07/2019 Signature Brady Hubbard (see warning above) 	
18004249300 <i>Emergency Telephone Number</i>			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590740 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Stanciliff Suite 210 HOUSTON TX 77099 US		FedEx FX 18 Compliant Express CAFE3211	
<i>Two completed and signed copies of this Declaration must be handed to the operator</i>		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS			
This shipment is within the limitations prescribed for: (delete non applicable)		Airport of Departure ARTESIA	
			
Airport of Destination: HOUSTON ABSGRA		Shipment type: (delete non applicable) NON-RADIOACTIVE	
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or Identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 3266, Corrosive liquid, basic, inorganic, n.o.s.(Sodium Hydroxide), 8, I/ 0.08 L/854 UN 1268, Petroleum distillates, n.o.s., 3, III/ 0.04 L/366 All Packed In One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
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18004249300 <i>Emergency Telephone Number</i>			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

LOGO5 #157295 11/12

SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590740 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Stanciff Suite 210 HOUSTON TX 77099 US		FedEx FX 18 Compliant Express CAFE3211	
Two completed and signed copies of this Declaration must be handed to the operator		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS			
This shipment is within the limitations prescribed for: (delete non applicable)		Airport of Departure ARTESIA	
CARGO AIRCRAFT ONLY			
Airport of Destination: HOUSTON ABSGRA		Shipment type: (delete non applicable) NON-RADIOACTIVE	
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 3266, Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide), 8, I/ 0.08 L/854 UN 1268, Petroleum distillates, n.o.s., 3, III/ 0.04 L/366 All Packed In One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 02/07/2019 Signature Brady Hubbard (see warning above) <i>Brady Hubbard</i>	
18004249300 <i>Emergency Telephone Number</i>			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

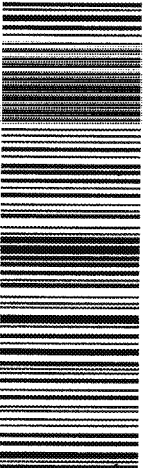
LOGOS #157295 11/12

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2. Place label in shipping pouch and affix it to your shipment.

TO COREY GRANDITS ALS 10450 STANCLIFF SUITE 210 HOUSTON TX 77099 REF: (281) 530-5656 DEPT: 100		ORIGINATOR NANO THERM COMPANY C/O AQUA MICROBICS 501 E MAIN ARLTON, VA 22621 UNITED STATES US		SHIP DATE: 07FEB10 ACTWGT: 35.00 LB MAN CAO: 0417859CAF5271	
TRK# 0201 7093 0859 0740		AB SGRA TX-US 77099 IAH		BILL RECIPIENT	
PRIORITY OVERNIGHT ADG FRI - 08 FEB 10:30A					
Handwritten: <i>not must PAC</i>		Handwritten: <i>FEB 08 2019</i>			



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

March 13, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19030263**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 4 sample(s) on Mar 06, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Corey Grandits
Project Manager

ALS Houston, US

Date: 13-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19030263

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19030263-01	S-1 (API HC)	Liquid		05-Mar-2019 10:13	06-Mar-2019 12:50	☐
HS19030263-02	S-3 (API Water)	Liquid		05-Mar-2019 10:21	06-Mar-2019 12:50	☐
HS19030263-03	S-5 (T-40)	Liquid		05-Mar-2019 09:39	06-Mar-2019 12:50	☐
HS19030263-04	S-6 (T-41)	Liquid		05-Mar-2019 09:45	06-Mar-2019 12:50	☐

ALS Houston, US

Date: 13-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19030263

CASE NARRATIVE

Work Order Comments

- The analysis for Specific Gravity was subcontracted to ALS Environmental in Holland, MI. Final report attached.

ALS Houston, US

Date: 13-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-1 (API HC)
Collection Date: 05-Mar-2019 10:13

ANALYTICAL REPORT

WorkOrder:HS19030263
Lab ID:HS19030263-01
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	13-Mar-2019 10:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 13-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-3 (API Water)
Collection Date: 05-Mar-2019 10:21

ANALYTICAL REPORT

WorkOrder:HS19030263
Lab ID:HS19030263-02
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC		Method:NA					Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	13-Mar-2019 10:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 13-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-5 (T-40)
Collection Date: 05-Mar-2019 09:39

ANALYTICAL REPORT

WorkOrder:HS19030263
Lab ID:HS19030263-03
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	13-Mar-2019 10:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 13-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-6 (T-41)
Collection Date: 05-Mar-2019 09:45

ANALYTICAL REPORT

WorkOrder:HS19030263
Lab ID:HS19030263-04
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	13-Mar-2019 10:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 13-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19030263

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R334423	Test Name : SUBCONTRACTED ANALYSIS SPECIFIC GRAVITY			Matrix: Liquid		
HS19030263-01	S-1 (API HC)	05 Mar 2019 10:13			13 Mar 2019 10:14	1
HS19030263-02	S-3 (API Water)	05 Mar 2019 10:21			13 Mar 2019 10:14	1
HS19030263-03	S-5 (T-40)	05 Mar 2019 09:39			13 Mar 2019 10:14	1
HS19030263-04	S-6 (T-41)	05 Mar 2019 09:45			13 Mar 2019 10:14	1

ALS Houston, US

Date: 13-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19030263

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Houston, US

Date: 13-Mar-19

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
California	2919, 2018-2019	30-Apr-2019
Maryland	343, 2018-2019	30-Jun-2019

ALS Houston, US

Date: 13-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19030263

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19030263-01	S-1 (API HC)	Login	3/6/2019 2:52:28 PM	JRM	Sub
HS19030263-02	S-3 (API Water)	Login	3/6/2019 2:52:28 PM	JRM	Sub
HS19030263-03	S-5 (T-40)	Login	3/6/2019 2:52:28 PM	JRM	Sub
HS19030263-04	S-6 (T-41)	Login	3/6/2019 2:52:28 PM	JRM	Sub

ALS Houston, US

Date: 13-Mar-19

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS19030263

Date/Time Received: **06-Mar-2019 12:50**
Received by: **JRM**

Checklist completed by: Jared R. Mekan
eSignature

6-Mar-2019
Date

Reviewed by: Corey Grandits
eSignature

7-Mar-2019
Date

Matrices: **Liquid**

Carrier name: **ALS Courier**

Shipping container/cooler in good condition?
Custody seals intact on shipping container/cooler?
Custody seals intact on sample bottles?
VOA/TX1005/TX1006 Solids in hermetically sealed vials?
Chain of custody present?
Chain of custody signed when relinquished and received?
Samplers name present on COC?
Chain of custody agrees with sample labels?
Samples in proper container/bottle?
Sample containers intact?
Sufficient sample volume for indicated test?
All samples received within holding time?
Container/Temp Blank temperature in compliance?

Yes ☒	No ☐	Not Present ☐
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☒	No ☐	1 Page(s)
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	

Temperature(s)/Thermometer(s):

0.4c/0.4c UC/C

IR11

Cooler(s)/Kit(s):

Foam cooler

Date/Time sample(s) sent to storage:

03/06/2019 14:55

Water - VOA vials have zero headspace?

Yes ☐ No ☐ No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐ No ☐ N/A ☒

pH adjusted?

Yes ☐ No ☐ N/A ☒

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

Page 1 of 1
☐ Cincinnati, OH
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☐ York, PA
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Customer Information		Project Information					Parameter/Method Request for Analysis												
Purchase Order		Project Name	BWON Monthly Sampling (EOL)					A Specific Gravity											
Work Order		Project Number						B											
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC					C											
Send Report To	Tyler Turner, Gabi Combs	Invoice Attn.	Susie Aguilar					D											
Address	P.O. Box 159	Address	501 East Main					E											
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210					F											
Phone	(575) 748-3311	Phone	(575) 748-3311					G											
Fax	(575) 746-5451	Fax	(575) 746-5451					H											
e-Mail Address	ttturner.am@gmail.com Gabiela.Combs@hollyfrontier.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com					I											
HS19030263 Navajo Refining Company BWON Monthly Sampling (EOL)																			
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	S-1 (API HC)	03/05/19	10:13 AM	Liquid	8	1	x												
2	S-3 (API Water)	03/05/19	10:21 AM	Liquid	8	1	x												
3	S-5 (T-40)	03/05/19	9:39 AM	Liquid	8	1	x												
4	S-6 (T-41)	03/05/19	9:45 AM	Liquid	8	1	x												
5																			
6																			
7																			
8																			
9																			
10																			
Sampler(s): Please Print & Sign <i>Brady Hubbard</i>		Shipment Method: FedEx		Required Turnaround Time: ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour				Results Due Date:											
Relinquished by: <i>Brady Hubbard</i>		Date: <i>3-5-19</i>	Time: <i>4:00</i>	Received by: _____				Notes:											
Relinquished by: _____		Date: <i>3/6/19</i>	Time: <i>12:50</i>	Received by (Laboratory): <i>J. Martinez</i>				Cooler Temp. <i>0.4</i>											
Logged by (Laboratory): _____		Date: _____	Time: _____	Checked by (Laboratory): _____				QC Package: (Check Box Below)											
								☐ Level II: Standard QC ☐ Level III: Std QC + Raw Data ☐ Level IV: SW846 CLP-Like Other: _____											
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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Foam Color
1211 CPO.0

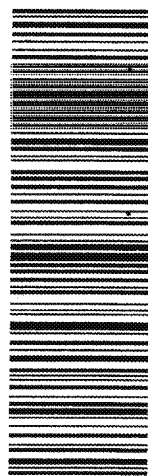
SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590751 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Stancliff Suite 210 HOUSTON TX 77099 US		FedEx FX 18 Compliant Express CAFE3211	
Two completed and signed copies of this Declaration must be handed to the operator		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS			
This shipment is within the limitations prescribed for: (delete non applicable)		Airport of Departure ARTESIA	
☐ CARGO ☐ AIRCRAFT ☐ ONLY			
Airport of Destination: HOUSTON ABSGRA		Shipment type: (delete non applicable) ☒ NON-RADIOACTIVE	
NATURE AND QUANTITY OF DANGEROUS GOODS UN Number or Identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information. UN 3266, Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide), 8, II/ 0.08 L/854 UN 1268, Petroleum distillates, n.o.s., 3, III/ 0.04 L/366 All Packed In One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 03/05/2019 Signature Brady Hubbard (see warning above)	
18004249300 Emergency Telephone Number			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

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Team MAR 06 2019



AB SGRA

TX-US
IAH

TRK# 7093 0859 0751

WED - 06 MAR 10:30A
 PRIORITY OVERNIGHT
 ADG

77099

Dangerous Goods as per attached DGD-CAO



TO COREY GRANDITS
 ALS
 10450 STANCLIFF
 SUITE 210
 HOUSTON TX 77099

PO NV REF DEPT

551C146D3/104C

ORIGIN ID: RQWA (575) 840-7836
 MAIL ROOM
 501 E MAIN
 ARTESIA, NM 86210
 UNITED STATES US

SHIP DATE: 05MAR19
 ACTWGT: 35.00 LB MAN
 CAD: 04/7/2019 04:32:11
 BILL RECIPIENT



13-Mar-2019

Corey Grandits
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19030263**

Work Order: **1903326**

Dear Corey,

ALS Environmental received 4 samples on 07-Mar-2019 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP. Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

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Page 16 of 25

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HFNA-000002987

ALS Group, USA

Date: 13-Mar-19

Client: ALS Environmental**Project:** HS19030263**Work Order:** 1903326**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1903326-01	HS19030263-01	Liquid	S-1 (API-HC)	3/5/2019 10:13	3/7/2019 10:00	☐
1903326-02	HS19030263-02	Liquid	S-3 (API Water)	3/5/2019 10:13	3/7/2019 10:00	☐
1903326-03	HS19030263-03	Liquid	S-5 (T-40)	3/5/2019 10:13	3/7/2019 10:00	☐
1903326-04	HS19030263-04	Liquid	S-6 (T-41)	3/5/2019 10:13	3/7/2019 10:00	☐

ALS Group, USA

Date: 13-Mar-19

Client: ALS Environmental
Project: HS19030263
WorkOrder: 1903326

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
none	

ALS Group, USA**Date:** 13-Mar-19**Client:** ALS Environmental**Project:** HS19030263**Work Order:** 1903326**Sample ID:** HS19030263-01**Lab ID:** 1903326-01**Collection Date:** 3/5/2019 10:13 AM**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.00			none	1	3/12/2019 02:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 13-Mar-19

Client: ALS Environmental
Project: HS19030263
Sample ID: HS19030263-02
Collection Date: 3/5/2019 10:13 AM

Work Order: 1903326
Lab ID: 1903326-02
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.01			none	1	3/12/2019 02:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 13-Mar-19

Client: ALS Environmental
Project: HS19030263
Sample ID: HS19030263-03
Collection Date: 3/5/2019 10:13 AM

Work Order: 1903326
Lab ID: 1903326-03
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.15			none	1	3/12/2019 02:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 13-Mar-19

Client: ALS Environmental
Project: HS19030263
Sample ID: HS19030263-04
Collection Date: 3/5/2019 10:13 AM

Work Order: 1903326
Lab ID: 1903326-04
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY Specific Gravity	1.13		D5057-90	none	1	Analyst: RZM 3/12/2019 02:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 13-Mar-19

Client: ALS Environmental

Work Order: 1903326

Project: HS19030263

QC BATCH REPORT

Batch ID: R256327

Instrument ID WETCHEM

Method: D5057-90

DUP	Sample ID: 1903326-02A DUP				Units: none		Analysis Date: 3/12/2019 02:50 PM			
Client ID: HS19030263-02		Run ID: WETCHEM_190312K			SeqNo: 5555297		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	1.011	0	0	0	0	0-0	1.014	0.346	20	

The following samples were analyzed in this batch:

1903326-01A	1903326-02A	1903326-03A
1903326-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

1903326



10450 Stancliff Rd, Ste 210
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Subcontract Chain of Custody

COC ID: 10878

SUBCONTRACT TO:

ALS Group USA, Corp.
3352 - 128th Ave
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: Corey Grandits
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: Corey.Grandits@alsglobal.com
Alternate Contact: Jumoke M. Lawal
Email: jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19030263
TSR: Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19030263-01	S-1 (API HC)	Liquid	05 Mar 2019 10:13
	Sub Specific Gravity to ALS Holland			13 Mar 2019
2.	HS19030263-02	S-3 (API Water)	Liquid	05 Mar 2019 10:13
	Sub Specific Gravity to ALS Holland			13 Mar 2019
3.	HS19030263-03	S-5 (T-40)	Liquid	05 Mar 2019 10:13
	Sub Specific Gravity to ALS Holland			13 Mar 2019
4.	HS19030263-04	S-6 (T-41)	Liquid	05 Mar 2019 10:13
	Sub Specific Gravity to ALS Holland			13 Mar 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By:

J. M. Lawal

Date/Time:

3/6/19 18:00

Received By:

J. M. Lawal

Date/Time:

3/7/19 1000

Cooler ID(s):

Temperature(s):

822 3.4°C

ALS Group, USA

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**Date/Time Received: **07-Mar-19 10:00**Work Order: **1903326**Received by: **DS**Checklist completed by Diane Shava
eSignature07-Mar-19
DateReviewed by: Chad Whilton
eSignature07-Mar-19
DateMatrices: **Liquid**Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒No ☐Not Present ☐

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

Chain of custody signed when relinquished and received?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Sample(s) received on ice?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

3.4/3.4 cSR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

3/7/2019 11:07:23 AM

Water - VOA vials have zero headspace?

Yes ☐No ☐No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐No ☐N/A ☒

pH adjusted?

Yes ☐No ☐N/A ☒

pH adjusted by:

-

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10450 Stancliff Rd. Suite 210
Houston, TX 77099
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March 14, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19030352**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 9 sample(s) on Mar 06, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Corey Grandits
Project Manager

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19030352

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19030352-01	S-1 (API HC)	Liquid		05-Mar-2019 10:13	06-Mar-2019 12:50	☐
HS19030352-02	S-3 (API Water)	Liquid		05-Mar-2019 10:21	06-Mar-2019 12:50	☐
HS19030352-03	S-5 (T-40)	Liquid		05-Mar-2019 09:39	06-Mar-2019 12:50	☐
HS19030352-04	S-6 (T-41)	Liquid		05-Mar-2019 09:45	06-Mar-2019 12:50	☐
HS19030352-05	Field Blank	Water		05-Mar-2019 10:16	06-Mar-2019 12:50	☐
HS19030352-06	EQ Blank Port 1	Water		05-Mar-2019 10:39	06-Mar-2019 12:50	☐
HS19030352-07	EQ Blank Port 2	Water		05-Mar-2019 10:39	06-Mar-2019 12:50	☐
HS19030352-08	Duplicate	Liquid		05-Mar-2019 00:00	06-Mar-2019 12:50	☐
HS19030352-09	Trip Blank	Water	C&G 101618-84	05-Mar-2019 00:00	06-Mar-2019 12:50	☐

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19030352

CASE NARRATIVE

GCMS Volatiles by Method SW8260**Batch ID: R334415****Sample ID: HS19030318-01MS**

- MS and MSD are for an unrelated sample

Sample ID: S-5 (T-40) (HS19030352-03), S-6 (T-41) (HS19030352-04)

- Lowest practical dilution for HS19030252-03, 04 due to sample matrix.

Sample ID: S-6 (T-41) (HS19030352-04)

- Surrogate failure due to sample matrix.

Batch ID: R334531

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R334329

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R334272

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-1 (API HC)
 Collection Date: 05-Mar-2019 10:13

ANALYTICAL REPORT

WorkOrder:HS19030352
 Lab ID:HS19030352-01
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260					Analyst: WLR
Benzene	1.9		0.025	0.25	mg/Kg	50	12-Mar-2019 22:43
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>107</i>			<i>70-126</i>	<i>%REC</i>	<i>50</i>	<i>12-Mar-2019 22:43</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>70-130</i>	<i>%REC</i>	<i>50</i>	<i>12-Mar-2019 22:43</i>
<i>Surr: Dibromofluoromethane</i>	<i>91.3</i>			<i>70-130</i>	<i>%REC</i>	<i>50</i>	<i>12-Mar-2019 22:43</i>
<i>Surr: Toluene-d8</i>	<i>104</i>			<i>70-130</i>	<i>%REC</i>	<i>50</i>	<i>12-Mar-2019 22:43</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-3 (API Water)
 Collection Date: 05-Mar-2019 10:21

ANALYTICAL REPORT

WorkOrder:HS19030352
 Lab ID:HS19030352-02
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	0.78		0.030	0.25	mg/L	50	13-Mar-2019 20:57
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>107</i>			<i>70-126</i>	<i>%REC</i>	<i>50</i>	<i>13-Mar-2019 20:57</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>99.9</i>			<i>82-124</i>	<i>%REC</i>	<i>50</i>	<i>13-Mar-2019 20:57</i>
<i>Surr: Dibromofluoromethane</i>	<i>103</i>			<i>77-123</i>	<i>%REC</i>	<i>50</i>	<i>13-Mar-2019 20:57</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>50</i>	<i>13-Mar-2019 20:57</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-5 (T-40)
 Collection Date: 05-Mar-2019 09:39

ANALYTICAL REPORT

WorkOrder:HS19030352
 Lab ID:HS19030352-03
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260					Analyst: WLR
Benzene	< 0.024		0.024	0.24	mg/Kg	50	12-Mar-2019 23:08
Surr: 1,2-Dichloroethane-d4	107			70-126	%REC	50	12-Mar-2019 23:08
Surr: 4-Bromofluorobenzene	104			70-130	%REC	50	12-Mar-2019 23:08
Surr: Dibromofluoromethane	75.0			70-130	%REC	50	12-Mar-2019 23:08
Surr: Toluene-d8	101			70-130	%REC	50	12-Mar-2019 23:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-6 (T-41)
 Collection Date: 05-Mar-2019 09:45

ANALYTICAL REPORT

WorkOrder:HS19030352
 Lab ID:HS19030352-04
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260		Analyst: WLR			
Benzene	0.29		0.024	0.24	mg/Kg	50	12-Mar-2019 23:33
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>105</i>			<i>70-126</i>	<i>%REC</i>	<i>50</i>	<i>12-Mar-2019 23:33</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>107</i>			<i>70-130</i>	<i>%REC</i>	<i>50</i>	<i>12-Mar-2019 23:33</i>
<i>Surr: Dibromofluoromethane</i>	<i>68.2</i>	<i>S</i>		<i>70-130</i>	<i>%REC</i>	<i>50</i>	<i>12-Mar-2019 23:33</i>
<i>Surr: Toluene-d8</i>	<i>100</i>			<i>70-130</i>	<i>%REC</i>	<i>50</i>	<i>12-Mar-2019 23:33</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Field Blank
 Collection Date: 05-Mar-2019 10:16

ANALYTICAL REPORT

WorkOrder:HS19030352
 Lab ID:HS19030352-05
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	11-Mar-2019 15:42
Surr: 1,2-Dichloroethane-d4	111			70-126	%REC	1	11-Mar-2019 15:42
Surr: 4-Bromofluorobenzene	99.0			82-124	%REC	1	11-Mar-2019 15:42
Surr: Dibromofluoromethane	103			77-123	%REC	1	11-Mar-2019 15:42
Surr: Toluene-d8	102			82-127	%REC	1	11-Mar-2019 15:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 1
 Collection Date: 05-Mar-2019 10:39

ANALYTICAL REPORT

WorkOrder:HS19030352
 Lab ID:HS19030352-06
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method:SW8260						Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	11-Mar-2019 14:02
Surr: 1,2-Dichloroethane-d4	108			70-126	%REC	1	11-Mar-2019 14:02
Surr: 4-Bromofluorobenzene	97.9			82-124	%REC	1	11-Mar-2019 14:02
Surr: Dibromofluoromethane	98.3			77-123	%REC	1	11-Mar-2019 14:02
Surr: Toluene-d8	101			82-127	%REC	1	11-Mar-2019 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 2
 Collection Date: 05-Mar-2019 10:39

ANALYTICAL REPORT

WorkOrder:HS19030352
 Lab ID:HS19030352-07
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	11-Mar-2019 14:27
Surr: 1,2-Dichloroethane-d4	112			70-126	%REC	1	11-Mar-2019 14:27
Surr: 4-Bromofluorobenzene	98.5			82-124	%REC	1	11-Mar-2019 14:27
Surr: Dibromofluoromethane	102			77-123	%REC	1	11-Mar-2019 14:27
Surr: Toluene-d8	101			82-127	%REC	1	11-Mar-2019 14:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Duplicate
 Collection Date: 05-Mar-2019 00:00

ANALYTICAL REPORT

WorkOrder:HS19030352
 Lab ID:HS19030352-08
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	0.80		0.030	0.25	mg/L	50	13-Mar-2019 21:22
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>106</i>			<i>70-126</i>	<i>%REC</i>	<i>50</i>	<i>13-Mar-2019 21:22</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>99.3</i>			<i>82-124</i>	<i>%REC</i>	<i>50</i>	<i>13-Mar-2019 21:22</i>
<i>Surr: Dibromofluoromethane</i>	<i>100.0</i>			<i>77-123</i>	<i>%REC</i>	<i>50</i>	<i>13-Mar-2019 21:22</i>
<i>Surr: Toluene-d8</i>	<i>99.3</i>			<i>82-127</i>	<i>%REC</i>	<i>50</i>	<i>13-Mar-2019 21:22</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: Trip Blank
Collection Date: 05-Mar-2019 00:00

ANALYTICAL REPORT

WorkOrder:HS19030352
Lab ID:HS19030352-09
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	08-Mar-2019 18:05
Surr: 1,2-Dichloroethane-d4	80.7			70-126	%REC	1	08-Mar-2019 18:05
Surr: 4-Bromofluorobenzene	99.5			82-124	%REC	1	08-Mar-2019 18:05
Surr: Dibromofluoromethane	82.3			77-123	%REC	1	08-Mar-2019 18:05
Surr: Toluene-d8	108			82-127	%REC	1	08-Mar-2019 18:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19030352

Batch ID: 2951 **Method:** VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS19030352-01	1	4.964 (g)	5 (mL)	1.01	Bulk (5030B)
HS19030352-03	1	5.223 (g)	5 (mL)	0.96	Bulk (5030B)
HS19030352-04	1	5.099 (g)	5 (mL)	0.98	Bulk (5030B)

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19030352

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R334272 Test Name : VOLATILES - SW8260C Matrix: Water						
HS19030352-09	Trip Blank	05 Mar 2019 00:00			08 Mar 2019 18:05	1
Batch ID R334329 Test Name : VOLATILES - SW8260C Matrix: Water						
HS19030352-05	Field Blank	05 Mar 2019 10:16			11 Mar 2019 15:42	1
HS19030352-06	EQ Blank Port 1	05 Mar 2019 10:39			11 Mar 2019 14:02	1
HS19030352-07	EQ Blank Port 2	05 Mar 2019 10:39			11 Mar 2019 14:27	1
Batch ID R334415 Test Name : VOLATILES BY SW8260C Matrix: Liquid						
HS19030352-01	S-1 (API HC)	05 Mar 2019 10:13			12 Mar 2019 22:43	50
HS19030352-03	S-5 (T-40)	05 Mar 2019 09:39			12 Mar 2019 23:08	50
HS19030352-04	S-6 (T-41)	05 Mar 2019 09:45			12 Mar 2019 23:33	50
Batch ID R334531 Test Name : VOLATILES - SW8260C Matrix: Liquid						
HS19030352-02	S-3 (API Water)	05 Mar 2019 10:21			13 Mar 2019 20:57	50
HS19030352-08	Duplicate	05 Mar 2019 00:00			13 Mar 2019 21:22	50

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19030352

QC BATCH REPORT

Batch ID: R334272		Instrument: VOA6		Method: SW8260					
MBLK	Sample ID: VBLKW-190308	Units: ug/L		Analysis Date: 08-Mar-2019 12:05					
Client ID:	Run ID: VOA6_334272	SeqNo: 4984668		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	41.37	0	50	0	82.7	70 - 130			
Surr: 4-Bromofluorobenzene	50.23	0	50	0	100	82 - 115			
Surr: Dibromofluoromethane	40.97	0	50	0	81.9	73 - 126			
Surr: Toluene-d8	53.9	0	50	0	108	81 - 120			

LCS	Sample ID: VLCSW-190308	Units: ug/L		Analysis Date: 08-Mar-2019 11:17					
Client ID:	Run ID: VOA6_334272	SeqNo: 4984667		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	20.74	5.0	20	0	104	74 - 120			
Surr: 1,2-Dichloroethane-d4	51.89	0	50	0	104	70 - 130			
Surr: 4-Bromofluorobenzene	53.23	0	50	0	106	82 - 115			
Surr: Dibromofluoromethane	51.27	0	50	0	103	73 - 126			
Surr: Toluene-d8	47.66	0	50	0	95.3	81 - 120			

MS	Sample ID: HS19030163-01MS	Units: ug/L		Analysis Date: 08-Mar-2019 16:29					
Client ID:	Run ID: VOA6_334272	SeqNo: 4984671		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	18.1	5.0	20	0	90.5	70 - 127			
Surr: 1,2-Dichloroethane-d4	42.6	0	50	0	85.2	70 - 126			
Surr: 4-Bromofluorobenzene	50.07	0	50	0	100	82 - 124			
Surr: Dibromofluoromethane	42.23	0	50	0	84.5	77 - 123			
Surr: Toluene-d8	54.26	0	50	0	109	82 - 127			

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19030352

QC BATCH REPORT

Batch ID: R334272		Instrument: VOA6		Method: SW8260						
MSD	Sample ID: HS19030163-01MSD	Units: ug/L			Analysis Date: 08-Mar-2019 16:53					
Client ID:	Run ID: VOA6_334272	SeqNo: 4984672		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19.25	5.0	20	0	96.2	70 - 127	18.1	6.17	20	
Surr: 1,2-Dichloroethane-d4	41.92	0	50	0	83.8	70 - 126	42.6	1.62	20	
Surr: 4-Bromofluorobenzene	50.79	0	50	0	102	82 - 124	50.07	1.42	20	
Surr: Dibromofluoromethane	41.48	0	50	0	83.0	77 - 123	42.23	1.8	20	
Surr: Toluene-d8	52.71	0	50	0	105	82 - 127	54.26	2.9	20	

The following samples were analyzed in this batch: HS19030352-09

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19030352

QC BATCH REPORT

Batch ID: R334329		Instrument: VOA9		Method: SW8260					
MBLK	Sample ID: VBLKW-190311	Units: ug/L		Analysis Date: 11-Mar-2019 12:23					
Client ID:	Run ID: VOA9_334329	SeqNo: 4985860		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	59.2	0	50	0	118	70 - 130			
Surr: 4-Bromofluorobenzene	49.58	0	50	0	99.2	82 - 115			
Surr: Dibromofluoromethane	52.99	0	50	0	106	73 - 126			
Surr: Toluene-d8	51.02	0	50	0	102	81 - 120			

LCS	Sample ID: VLCSW-190311	Units: ug/L		Analysis Date: 11-Mar-2019 11:34					
Client ID:	Run ID: VOA9_334329	SeqNo: 4985859		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	20.84	5.0	20	0	104	74 - 120			
Surr: 1,2-Dichloroethane-d4	57.22	0	50	0	114	70 - 130			
Surr: 4-Bromofluorobenzene	51.46	0	50	0	103	82 - 115			
Surr: Dibromofluoromethane	53.8	0	50	0	108	73 - 126			
Surr: Toluene-d8	51.15	0	50	0	102	81 - 120			

MS	Sample ID: HS19030101-41MS	Units: ug/L		Analysis Date: 11-Mar-2019 14:52					
Client ID:	Run ID: VOA9_334329	SeqNo: 4985864		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	1219	250	1000	107.4	111	70 - 127			
Surr: 1,2-Dichloroethane-d4	2755	0	2500	0	110	70 - 126			
Surr: 4-Bromofluorobenzene	2540	0	2500	0	102	82 - 124			
Surr: Dibromofluoromethane	2652	0	2500	0	106	77 - 123			
Surr: Toluene-d8	2537	0	2500	0	101	82 - 127			

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19030352

QC BATCH REPORT

Batch ID: R334329		Instrument: VOA9		Method: SW8260						
MSD	Sample ID: HS19030101-41MSD	Units: ug/L			Analysis Date: 11-Mar-2019 15:17					
Client ID:	Run ID: VOA9_334329	SeqNo: 4985865			PrepDate:			DF: 50		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1176	250	1000	107.4	107	70 - 127	1219	3.56	20	
Surr: 1,2-Dichloroethane-d4	2738	0	2500	0	110	70 - 126	2755	0.629	20	
Surr: 4-Bromofluorobenzene	2536	0	2500	0	101	82 - 124	2540	0.189	20	
Surr: Dibromofluoromethane	2623	0	2500	0	105	77 - 123	2652	1.12	20	
Surr: Toluene-d8	2530	0	2500	0	101	82 - 127	2537	0.286	20	
The following samples were analyzed in this batch:		HS19030352-05		HS19030352-06		HS19030352-07				

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19030352

QC BATCH REPORT

Batch ID: R334415		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: MBLKW1-031219	Units: ug/Kg		Analysis Date: 12-Mar-2019 16:31					
Client ID:	Run ID: VOA8_334415	SeqNo: 4987955		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2434	0	2500	0	97.3	76 - 125			
Surr: 4-Bromofluorobenzene	2413	0	2500	0	96.5	80 - 120			
Surr: Dibromofluoromethane	2177	0	2500	0	87.1	80 - 119			
Surr: Toluene-d8	2422	0	2500	0	96.9	81 - 118			

LCS	Sample ID: VLCSW1-031219	Units: ug/Kg		Analysis Date: 12-Mar-2019 15:41					
Client ID:	Run ID: VOA8_334415	SeqNo: 4987954		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	41.54	5.0	50	0	83.1	75 - 124			
Surr: 1,2-Dichloroethane-d4	48.87	0	50	0	97.7	76 - 125			
Surr: 4-Bromofluorobenzene	50.55	0	50	0	101	80 - 120			
Surr: Dibromofluoromethane	50.83	0	50	0	102	80 - 119			
Surr: Toluene-d8	49.27	0	50	0	98.5	81 - 118			

MS	Sample ID: HS19030318-01MS	Units: ug/Kg		Analysis Date: 12-Mar-2019 18:34					
Client ID:	Run ID: VOA8_334415	SeqNo: 4987960		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	1335	250	2475	0	53.9	70 - 130			S
Surr: 1,2-Dichloroethane-d4	556.8	0	2475	0	22.5	70 - 126			S
Surr: 4-Bromofluorobenzene	1511	0	2475	0	61.1	70 - 130			S
Surr: Dibromofluoromethane	774.3	0	2475	0	31.3	70 - 130			S
Surr: Toluene-d8	2829	0	2475	0	114	70 - 130			

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19030352

QC BATCH REPORT

Batch ID: R334415		Instrument: VOA8		Method: SW8260						
MSD	Sample ID: HS19030318-01MSD	Units: ug/Kg			Analysis Date: 12-Mar-2019 18:57					
Client ID:	Run ID: VOA8_334415	SeqNo: 4987961			PrepDate:			DF: 50		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1069	250	2475	0	43.2	70 - 130	1335	22.1	30	S
Surr: 1,2-Dichloroethane-d4	462	0	2475	0	18.7	70 - 126	556.8	18.6	30	S
Surr: 4-Bromofluorobenzene	1170	0	2475	0	47.3	70 - 130	1511	25.5	30	S
Surr: Dibromofluoromethane	718.4	0	2475	0	29.0	70 - 130	774.3	7.49	30	S
Surr: Toluene-d8	2507	0	2475	0	101	70 - 130	2829	12.1	30	
The following samples were analyzed in this batch:		HS19030352-01		HS19030352-03		HS19030352-04				

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19030352

QC BATCH REPORT

Batch ID: R334531		Instrument: VOA9		Method: SW8260					
MBLK	Sample ID: VBLKW-190313	Units: ug/L		Analysis Date: 13-Mar-2019 12:21					
Client ID:	Run ID: VOA9_334531	SeqNo: 4990302		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	58.75	0	50	0	117	70 - 130			
Surr: 4-Bromofluorobenzene	49.45	0	50	0	98.9	82 - 115			
Surr: Dibromofluoromethane	53.28	0	50	0	107	73 - 126			
Surr: Toluene-d8	50.93	0	50	0	102	81 - 120			

LCS	Sample ID: VLCSW-190313	Units: ug/L		Analysis Date: 13-Mar-2019 11:31					
Client ID:	Run ID: VOA9_334531	SeqNo: 4990301		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	20.78	5.0	20	0	104	74 - 120			
Surr: 1,2-Dichloroethane-d4	57.91	0	50	0	116	70 - 130			
Surr: 4-Bromofluorobenzene	51.25	0	50	0	103	82 - 115			
Surr: Dibromofluoromethane	54.71	0	50	0	109	73 - 126			
Surr: Toluene-d8	50.51	0	50	0	101	81 - 120			

MS	Sample ID: HS19030561-01MS	Units: ug/L		Analysis Date: 13-Mar-2019 16:49					
Client ID:	Run ID: VOA9_334531	SeqNo: 4990308		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	21.01	5.0	20	0	105	70 - 127			
Surr: 1,2-Dichloroethane-d4	52.58	0	50	0	105	70 - 126			
Surr: 4-Bromofluorobenzene	51.89	0	50	0	104	82 - 124			
Surr: Dibromofluoromethane	52.88	0	50	0	106	77 - 123			
Surr: Toluene-d8	50.91	0	50	0	102	82 - 127			

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19030352

QC BATCH REPORT

Batch ID: R334531		Instrument: VOA9		Method: SW8260						
MSD	Sample ID: HS19030561-01MSD	Units: ug/L			Analysis Date: 13-Mar-2019 17:14					
Client ID:	Run ID: VOA9_334531	SeqNo: 4990309			PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	20.33	5.0	20	0	102	70 - 127	21.01	3.27	20	
Surr: 1,2-Dichloroethane-d4	51.08	0	50	0	102	70 - 126	52.58	2.91	20	
Surr: 4-Bromofluorobenzene	50.5	0	50	0	101	82 - 124	51.89	2.72	20	
Surr: Dibromofluoromethane	52.21	0	50	0	104	77 - 123	52.88	1.28	20	
Surr: Toluene-d8	50.33	0	50	0	101	82 - 127	50.91	1.15	20	
The following samples were analyzed in this batch:		HS19030352-02		HS19030352-08						

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19030352

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

ALS Houston, US

Date: 14-Mar-19

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
California	2919, 2018-2019	30-Apr-2019
Maryland	343, 2018-2019	30-Jun-2019

ALS Houston, US

Date: 14-Mar-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19030352

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19030352-01	S-1 (API HC)	Login	3/7/2019 6:04:48 PM	JRM	VOA243
HS19030352-02	S-3 (API Water)	Login	3/7/2019 6:04:48 PM	JRM	VOA243
HS19030352-03	S-5 (T-40)	Login	3/7/2019 6:04:48 PM	JRM	VOA243
HS19030352-04	S-6 (T-41)	Login	3/7/2019 6:04:48 PM	JRM	VOA243
HS19030352-05	Field Blank	Login	3/7/2019 6:04:48 PM	JRM	VOA243
HS19030352-06	EQ Blank Port 1	Login	3/7/2019 6:04:48 PM	JRM	VOA243
HS19030352-07	EQ Blank Port 2	Login	3/7/2019 6:04:48 PM	JRM	VOA243
HS19030352-08	Duplicate	Login	3/7/2019 6:04:48 PM	JRM	VOA243
HS19030352-09	Trip Blank	Login	3/7/2019 6:04:48 PM	JRM	VOA243

ALS Houston, US

Date: 14-Mar-19

Sample Receipt Checklist

Client Name: Navajo Refining

Date/Time Received: **06-Mar-2019 12:50**

Work Order: HS19030352

Received by: **JRM**Checklist completed by: Jared R. Mekan

7-Mar-2019

eSignature

Date

Reviewed by:

Corey Grandits

8-Mar-2019

eSignature

Date

Matrices: **Water, Product**Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐No ☐Not Present ☒

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

VOA/TX1005/TX1006 Solids in hermetically sealed vials?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

1 Page(s)

Chain of custody signed when relinquished and received?

Yes ☒No ☐

COC IDs:N/A

Samplers name present on COC?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

0.4c/0.4c UC/C

IR11

Cooler(s)/Kit(s):

Foam

Date/Time sample(s) sent to storage:

03/07/2019 18:20

Water - VOA vials have zero headspace?

Yes ☒No ☐No VOA vials submitted ☐

Water - pH acceptable upon receipt?

Yes ☒No ☐N/A ☐

pH adjusted?

Yes ☐No ☒N/A ☐

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

Page 1 of 1
☐ Cincinnati, OH
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+1 610 948 4903

☐ Fort Collins, CO
+1 970 490 1511

☐ Middletown, PA
+1 717 944 5541

☐ York, PA
+1 717 505 5280

Customer Information			Project Information				Parameter/Method Request for Analysis												
Purchase Order		Project Name	BWON Monthly Sampling (EOL)				A	VOLATILES (8260) Benzene											
Work Order		Project Number					B												
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC				C												
Send Report To	Tyler Turner, Gabi Combs	Invoice Attn	Susie Aguilar				D												
Address	P.O. Box 159	Address	501 East Main				E	HS19030352 Navajo Refining Company BWON Monthly Sampling (EOL) 											
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210				F												
Phone	(575) 748-3311	Phone	(575) 748-3311				G												
Fax	(575) 746-5451	Fax	(575) 746-5451				H												
e-Mail Address	turner.am@gmail.com Gabiela.Combs@hollyfrontier.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com				I												
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	J	A	B	C	D	E	F	G	H	I	J	Hold	
1	S-1 (API HC)	03/05/19	10:13 AM	Liquid	8	1		x											
2	S-3 (API Water)	03/05/19	10:21 AM	Liquid	8,1	1		x											
3	S-5 (T-40)	03/05/19	9:39 AM	Liquid	8	1		x											
4	S-6 (T-41)	03/05/19	9:45 AM	Liquid	8	1		x											
5	Field Blank	03/05/19	10:16 AM	Liquid	8,1	1		x											
6	EQ Blank Port 1	03/05/19	10:39 AM	Liquid	8,1	1		x											
7	EQ Blank Port 2	03/05/19	10:39 AM	Liquid	8,1	1		x											
8	Duplicate	03/05/19	xxx	Liquid	8,1	1		x											
9	Trip Blank	03/05/19	xxx	Liquid	8,1	2		x											
10	Temperature Blank			Liquid		1													
Sampler(s): Please Print & Sign <i>Brady Hubbard</i> <i>Brady Hubbard</i>			Shipment Method: FedEx		Required Turnaround Time: ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour				Results Due Date:										
Relinquished by: <i>Brady Hubbard</i> <i>Brady Hubbard</i>		Date: <i>3.5.19</i>	Time: <i>4:00</i>	Received by:			Notes:												
Relinquished by:		Date: <i>3/6/19</i>	Time: <i>12:50</i>	Received by (Laboratory): <i>J. Murray</i>			Cooler Temp: <i>0.4</i>		QC Package: (Check Box Below)										
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):					Level II: Standard QC				TRRP-Checklist						
									Level III: Std QC + Raw Data				TRRP Level IV						
									Level IV: SW846 CLP-Like										
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																			
Other:																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

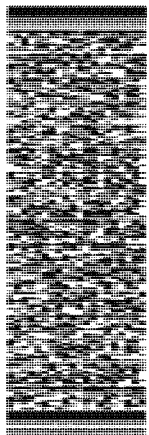
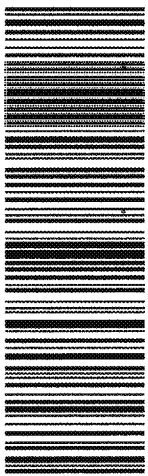
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ORIGIN: DROMA (575) 840-7836 NAVATO TRAINING COMPANY 501 E MAIN ARTESIA, NM 88210 UNITED STATES US		SHIP DATE: 05MAR19 ACTWGT: 35.00 LB MM CAD: 0477389C4FE3271 BILL RECIPIENT	
TO COREY GRANDITS ALS 10450 STANCLIFF SUITE 210 HOUSTON TX 77099 REF: (281) 330-5656 INV: PO: DEPT:			
 			
Dangerous Goods as per attached DSD-CAO			
TRK# 7093 0859 0751 0201		WED - 06 MAR 10:30A PRIORITY OVERNIGHT ADG 77099 TX-US IAH	
ABSGRA 		Team MAR 06 2019	

551C14603104C



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

February 14, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19020432**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 4 sample(s) on Feb 08, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKELAWAL
Corey Grandits
Project Manager

ALS Houston, US

Date: 14-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19020432

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19020432-01	S-1 (API HC)	Liquid		07-Feb-2019 09:08	08-Feb-2019 09:00	☐
HS19020432-02	S-3 (API Water)	Liquid		07-Feb-2019 09:25	08-Feb-2019 09:00	☐
HS19020432-03	S-5 (T-40)	Liquid		07-Feb-2019 08:46	08-Feb-2019 09:00	☐
HS19020432-04	S-6 (T-41)	Liquid		07-Feb-2019 08:51	08-Feb-2019 09:00	☐

ALS Houston, US

Date: 14-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19020432

CASE NARRATIVE

Work Order Comments

- The analyses for Specific Gravity was subcontracted to ALS Environmental in Holland, MI. Final report attached.

ALS Houston, US

Date: 14-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-1 (API HC)
Collection Date: 07-Feb-2019 09:08

ANALYTICAL REPORT

WorkOrder:HS19020432
Lab ID:HS19020432-01
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Feb-2019 09:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-3 (API Water)
Collection Date: 07-Feb-2019 09:25

ANALYTICAL REPORT

WorkOrder:HS19020432
Lab ID:HS19020432-02
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC		Method:NA					Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Feb-2019 09:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-5 (T-40)
Collection Date: 07-Feb-2019 08:46

ANALYTICAL REPORT

WorkOrder:HS19020432
Lab ID:HS19020432-03
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Feb-2019 09:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-6 (T-41)
Collection Date: 07-Feb-2019 08:51

ANALYTICAL REPORT

WorkOrder:HS19020432
Lab ID:HS19020432-04
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Feb-2019 09:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19020432

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R332838	Test Name : SUBCONTRACTED ANALYSIS SPECIFIC GRAVITY			Matrix: Liquid		
HS19020432-01	S-1 (API HC)	07 Feb 2019 09:08			14 Feb 2019 09:30	1
HS19020432-02	S-3 (API Water)	07 Feb 2019 09:25			14 Feb 2019 09:30	1
HS19020432-03	S-5 (T-40)	07 Feb 2019 08:46			14 Feb 2019 09:30	1
HS19020432-04	S-6 (T-41)	07 Feb 2019 08:51			14 Feb 2019 09:30	1

ALS Houston, US

Date: 14-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19020432

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Houston, US

Date: 14-Feb-19

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
California	2919, 2018-2019	30-Apr-2019
Maryland	343, 2018-2019	30-Jun-2019

ALS Houston, US

Date: 14-Feb-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19020432

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19020432-01	S-1 (API HC)	Login	2/8/2019 3:03:32 PM	PMG	Sub
HS19020432-02	S-3 (API Water)	Login	2/8/2019 3:03:32 PM	PMG	Sub
HS19020432-03	S-5 (T-40)	Login	2/8/2019 3:03:32 PM	PMG	Sub
HS19020432-04	S-6 (T-41)	Login	2/8/2019 3:03:32 PM	PMG	Sub

ALS Houston, US

Date: 14-Feb-19

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS19020432

Date/Time Received: **08-Feb-2019 09:00**
Received by: **NDR**

Checklist completed by: Paresh M. Giga 8-Feb-2019
eSignature Date

Reviewed by: Corey Grandits 13-Feb-2019
eSignature Date

Matrices: **liquid**Carrier name: **FedEx**

Shipping container/cooler in good condition?
Custody seals intact on shipping container/cooler?
Custody seals intact on sample bottles?
VOA/TX1005/TX1006 Solids in hermetically sealed vials?
Chain of custody present?
Chain of custody signed when relinquished and received?
Samplers name present on COC?
Chain of custody agrees with sample labels?
Samples in proper container/bottle?
Sample containers intact?
Sufficient sample volume for indicated test?
All samples received within holding time?
Container/Temp Blank temperature in compliance?

Yes ☒	No ☐	Not Present ☐
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☒	No ☐	1 Page(s)
Yes ☒	No ☐	COC IDs:None
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	

Temperature(s)/Thermometer(s):

0.8c/1.1c U/c

IR25

Cooler(s)/Kit(s):

Hazmatpac

Date/Time sample(s) sent to storage:

2/8/19 15:35

Water - VOA vials have zero headspace?

Yes ☐	No ☐	No VOA vials submitted ☒
------------------------------	-----------------------------	--

Water - pH acceptable upon receipt?

Yes ☐	No ☐	N/A ☒
------------------------------	-----------------------------	---

pH adjusted?

Yes ☐	No ☐	N/A ☒
------------------------------	-----------------------------	---

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Chain of Custody Form

Page 1 of 1

HS19020432

Navajo Refining Company
BWON Monthly Sampling (EOL)UT
00

03

80

ALS Project Manager: Erica Padilla

Customer Information			Project Information				Parameter/Method Request for Analysis												
Purchase Order		Project Name	BWON Monthly Sampling (EOL)				A	Specific Gravity											
Work Order		Project Number					B												
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC				C												
Send Report To	Tyler Turner Gabi Combs	Invoice Attn.	Susie Aguilar				D												
Address	P.O. Box 159	Address	501 East Main				E												
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210				F												
Phone	(575) 748-3311	Phone	(575) 748-3311				G												
Fax	(575) 746-5451	Fax	(575) 746-5451				H												
e-Mail Address	tturmer.am@gmail.com Gabiela.Combs@hollyfrontier.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com				I												
J																			
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	S-1 (API HC)	02/07/19	9:08 AM	Liquid	8	1	X												
2	S-3 (API Water)	02/07/19	9:25 AM	Liquid	8	1	X												
3	S-5 (T-40)	02/07/19	8:46 AM	Liquid	8	1	X												
4	S-6 (T-41)	02/07/19	8:51 AM	Liquid	8	1	X												
5																			
6																			
7																			
8																			
9																			
10																			
Sampler(s): Please Print & Sign: <i>Brady Hubbard</i>			Shipment Method: <i>FedEx</i>		Required Turnaround Time:				Results Due Date:										
					☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour														
Relinquished by: <i>Brady Hubbard</i>		Date: <i>2-7-19</i>	Time: <i>4:00 pm</i>	Received by:			Notes:												
Relinquished by: <i>Brady Hubbard</i>		Date:	Time:	Received by (Laboratory): <i>N/A</i>															
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):			Cooler Temp. <i>0-30</i>	QC Package: (Check Box Below)											
							<i>425</i>	Level II: Standard QC				TRRP-Checklist							
								Level III: Std QC + Raw Data				TRRP Level IV							
								Level IV: SW846 CLP-Like											
								Other: <i>11-030</i>											
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

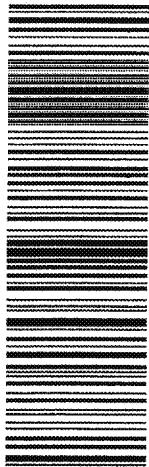
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ORIGIN ID: ROMA (575) 840-7836 NAVAJO REFINING COMPANY 507 P.O. BOX 1000 507 E MAIN ARTESIA, NM 88210 UNITED STATES US		SHIP DATE: 07/FEB/19 ACTWGT: 35.00 LB MAX CAD: 047738304F3211 BILL RECIPIENT
TO COREY GRANDITS ALS 10450 STANCLIFF SUITE 210 HOUSTON TX 77099 REF: (281) 530-5658 TX: 77099 PO:		
		
		
DANGEROUS GOODS as per attached DGD-CAD		
TRK# 7093 0859 0740 0201	FRI - 08 FEB 10:30A PRIORITY OVERNIGHT ADG 77099 IAH TX-US	AB SGRA FEB 08 2019 1402-muf PAC
		



14-Feb-2019

Corey Grandits
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19020432**

Work Order: **1902589**

Dear Corey,

ALS Environmental received 4 samples on 12-Feb-2019 11:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read 'Chad Whelton', is written over a horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP. Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS | RIGHT PARTNER

Page 15 of 24

RIGHT SOLUTIONS | RIGHT PARTNER

HFNA-000003039

ALS Group, USA

Date: 14-Feb-19

Client: ALS Environmental**Project:** HS19020432**Work Order:** 1902589**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1902589-01	HS19020432-01	Liquid	S-1 (API HC)	2/7/2019 09:08	2/12/2019 11:30	☐
1902589-02	HS19020432-02	Liquid	S-3 (API Water)	2/7/2019 09:25	2/12/2019 11:30	☐
1902589-03	HS19020432-03	Liquid	S-5 (T-40)	2/7/2019 08:46	2/12/2019 11:30	☐
1902589-04	HS19020432-04	Liquid	S-6 (T-41)	2/7/2019 08:51	2/12/2019 11:30	☐

ALS Group, USA

Date: 14-Feb-19

Client: ALS Environmental
Project: HS19020432
WorkOrder: 1902589

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
none	

ALS Group, USA**Date:** 14-Feb-19

Client: ALS Environmental
Project: HS19020432
Sample ID: HS19020432-01
Collection Date: 2/7/2019 09:08 AM

Work Order: 1902589
Lab ID: 1902589-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	0.975			none	1	2/14/2019 12:14 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Feb-19**Client:** ALS Environmental**Project:** HS19020432**Work Order:** 1902589**Sample ID:** HS19020432-02**Lab ID:** 1902589-02**Collection Date:** 2/7/2019 09:25 AM**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.00			none	1	2/14/2019 12:14 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Feb-19

Client: ALS Environmental
Project: HS19020432
Sample ID: HS19020432-03
Collection Date: 2/7/2019 08:46 AM

Work Order: 1902589
Lab ID: 1902589-03
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.14			none	1	2/14/2019 12:14 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Feb-19

Client: ALS Environmental
Project: HS19020432
Sample ID: HS19020432-04
Collection Date: 2/7/2019 08:51 AM

Work Order: 1902589
Lab ID: 1902589-04
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.14			none	1	2/14/2019 12:14 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Feb-19

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1902589

Project: HS19020432

Batch ID: **R254869**Instrument ID **WETCHEM**Method: **D5057-90**

DUP	Sample ID: 1902589-02A DUP				Units: none		Analysis Date: 2/14/2019 12:14 PM			
Client ID: HS19020432-02			Run ID: WETCHEM_190214D		SeqNo: 5521226		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	1	0	0	0	0	0-0	1.002	0.16	20	

The following samples were analyzed in this batch:

1902589-01A	1902589-02A	1902589-03A
1902589-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1



1902589
 10450 Stancliff Rd, Ste 210
 Houston, TX 77099
 T: +1 281 530 5656
 F: +1 281 530 5887
 www.alsglobal.com

Subcontract Chain of Custody

COC ID: 10716

SUBCONTRACT TO:

ALS Environmental
 3352 128th Ave
 Holland, MI 49424

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: Corey Grandits
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: Corey.Grandits@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19020432
TSR: Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS19020432-01	S-1 (API HC)	Liquid	07 Feb 2019 09:08
	Sub Specific Gravity to ALS Holland			15 Feb 2019
2.	HS19020432-02	S-3 (API Water)	Liquid	07 Feb 2019 09:25
	Sub Specific Gravity to ALS Holland			15 Feb 2019
3.	HS19020432-03	S-5 (T-40)	Liquid	07 Feb 2019 08:46
	Sub Specific Gravity to ALS Holland			15 Feb 2019
4.	HS19020432-04	S-6 (T-41)	Liquid	07 Feb 2019 08:51
	Sub Specific Gravity to ALS Holland			15 Feb 2019

Comments: Please analyze for the analysis listed above.
 Send report to the emails shown above.
 SDS Sheets attached

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By:

Date/Time:

Received By:

Date/Time:

Cooler ID(s):

Temperature(s):

ALS Group, USA

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**Date/Time Received: **12-Feb-19 11:30**Work Order: **1902589**Received by: **DS**Checklist completed by Diane Shana
eSignature13-Feb-19
DateReviewed by: Chad Whilton
eSignature13-Feb-19
DateMatrices: **Liquid**Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒No ☐Not Present ☐

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

Chain of custody signed when relinquished and received?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Sample(s) received on ice?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

2.4/2.4 cSR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

2/13/2019 9:56:24 AM

Water - VOA vials have zero headspace?

Yes ☐No ☐No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐No ☐N/A ☒

pH adjusted?

Yes ☐No ☐N/A ☒

pH adjusted by:

-

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

ATTACHMENT 6 - Provided in Enclosed CD
2018 TAB ANALYTICAL RESULTS



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

December 14, 2018

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS18120496**

Laboratory Results for: **BWON Annual Sampling**

Dear Gabriela,

ALS Environmental received 12 sample(s) on Dec 07, 2018 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Corey Grandits
Project Manager

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Work Order: HS18120496

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS18120496-01	D-2101 Desalter Water	Liquid		06-Dec-2018 10:59	07-Dec-2018 10:00	☐
HS18120496-02	D-2101 Desalter HC	Liquid		06-Dec-2018 10:42	07-Dec-2018 10:00	☐
HS18120496-03	D-130 Desalter Water	Liquid		06-Dec-2018 09:15	07-Dec-2018 10:00	☐
HS18120496-04	D-130 Desalter HC	Liquid		06-Dec-2018 08:54	07-Dec-2018 10:00	☐
HS18120496-05	D-482 Water	Liquid		06-Dec-2018 09:29	07-Dec-2018 10:00	☐
HS18120496-06	P-185 Strainer Water	Liquid		06-Dec-2018 10:04	07-Dec-2018 10:00	☐
HS18120496-07	T-401 ISOM	Liquid		05-Dec-2018 03:09	07-Dec-2018 10:00	☐
HS18120496-08	T-401 Water	Liquid		05-Dec-2018 03:04	07-Dec-2018 10:00	☐
HS18120496-09	T-401 Sump Water	Liquid		05-Dec-2018 03:15	07-Dec-2018 10:00	☐
HS18120496-10	T-401 Sump Gasoline Blend	Liquid		05-Dec-2018 03:15	07-Dec-2018 10:00	☐
HS18120496-11	D-180 Naptha	Liquid		06-Dec-2018 11:30	07-Dec-2018 10:00	☐
HS18120496-12	70-C-350 Naptha	Liquid		06-Dec-2018 08:50	07-Dec-2018 10:00	☐

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Work Order: HS18120496

CASE NARRATIVE

Work Order Comments

- The analysis for specific gravity was subcontracted to ALS Environmental in Holland, MI. Final report attached.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: D-2101 Desalter Water
Collection Date: 06-Dec-2018 10:59

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-01
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: D-2101 Desalter HC
Collection Date: 06-Dec-2018 10:42

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-02
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC		Method:NA					Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: D-130 Desalter Water
Collection Date: 06-Dec-2018 09:15

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-03
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC		Method:NA					Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: D-130 Desalter HC
Collection Date: 06-Dec-2018 08:54

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-04
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: D-482 Water
Collection Date: 06-Dec-2018 09:29

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-05
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: P-185 Strainer Water
Collection Date: 06-Dec-2018 10:04

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-06
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: T-401 ISOM
Collection Date: 05-Dec-2018 03:09

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-07
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: T-401 Water
Collection Date: 05-Dec-2018 03:04

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-08
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: T-401 Sump Water
Collection Date: 05-Dec-2018 03:15

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-09
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC		Method:NA					Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: T-401 Sump Gasoline Blend
Collection Date: 05-Dec-2018 03:15

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-10
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: D-180 Naptha
Collection Date: 06-Dec-2018 11:30

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-11
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: 70-C-350 Naptha
Collection Date: 06-Dec-2018 08:50

ANALYTICAL REPORT

WorkOrder:HS18120496
Lab ID:HS18120496-12
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst:
GRAVITY							SUBHO
Subcontract Analysis	See Attached		0		NA	1	14-Dec-2018 11:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company

Project: BWON Annual Sampling

WorkOrder: HS18120496

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID	R329249	Test Name : SUBCONTRACTED ANALYSIS SPECIFIC GRAVITY			Matrix: Liquid	
HS18120496-01	D-2101 Desalter Water	06 Dec 2018 10:59			14 Dec 2018 11:40	1
HS18120496-02	D-2101 Desalter HC	06 Dec 2018 10:42			14 Dec 2018 11:40	1
HS18120496-03	D-130 Desalter Water	06 Dec 2018 09:15			14 Dec 2018 11:40	1
HS18120496-04	D-130 Desalter HC	06 Dec 2018 08:54			14 Dec 2018 11:40	1
HS18120496-05	D-482 Water	06 Dec 2018 09:29			14 Dec 2018 11:40	1
HS18120496-06	P-185 Strainer Water	06 Dec 2018 10:04			14 Dec 2018 11:40	1
HS18120496-07	T-401 ISOM	05 Dec 2018 03:09			14 Dec 2018 11:40	1
HS18120496-08	T-401 Water	05 Dec 2018 03:04			14 Dec 2018 11:40	1
HS18120496-09	T-401 Sump Water	05 Dec 2018 03:15			14 Dec 2018 11:40	1
HS18120496-10	T-401 Sump Gasoline Blend	05 Dec 2018 03:15			14 Dec 2018 11:40	1
HS18120496-11	D-180 Naptha	06 Dec 2018 11:30			14 Dec 2018 11:40	1
HS18120496-12	70-C-350 Naptha	06 Dec 2018 08:50			14 Dec 2018 11:40	1

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
WorkOrder: HS18120496

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Houston, US

Date: 14-Dec-18

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
North Carolina	624-2018	31-Dec-2018
Arkansas	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	22-Dec-2018
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019

ALS Houston, US

Date: 14-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Work Order: HS18120496

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS18120496-01	D-2101 Desalter Water	Login	12/10/2018 4:03:12 PM	JRM	Sub
HS18120496-02	D-2101 Desalter HC	Login	12/10/2018 4:03:12 PM	JRM	Sub
HS18120496-03	D-130 Desalter Water	Login	12/10/2018 4:03:12 PM	JRM	Sub
HS18120496-04	D-130 Desalter HC	Login	12/10/2018 4:03:12 PM	JRM	Sub
HS18120496-05	D-482 Water	Login	12/10/2018 4:03:12 PM	JRM	Sub
HS18120496-06	P-185 Strainer Water	Login	12/10/2018 4:03:12 PM	JRM	Sub
HS18120496-07	T-401 ISOM	Login	12/10/2018 4:03:12 PM	JRM	Sub
HS18120496-09	T-401 Sump Water	Login	12/10/2018 4:03:12 PM	JRM	Sub
HS18120496-11	D-180 Naptha	Login	12/10/2018 4:03:12 PM	JRM	Sub
HS18120496-12	70-C-350 Naptha	Login	12/10/2018 4:03:12 PM	JRM	Sub

ALS Houston, US

Date: 14-Dec-18

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS18120496

Date/Time Received: **07-Dec-2018 10:00**
Received by: **JRM**

Checklist completed by: <u>Jared R. Makan</u>	10-Dec-2018	Reviewed by: <u>Corey Grandits</u>	12-Dec-2018
eSignature	Date	eSignature	Date

Matrices: **Liquid**Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☐	No ☒	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☒
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	1.3c/1.6c UC/C IR25		
Cooler(s)/Kit(s):	Foam cooler		
Date/Time sample(s) sent to storage:	12/10/2018 16:00		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:			

Login Notes: **COC 2 of 2 not relinquished.**

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

Page 1 of 2

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- ☐ Fort Collins, CO
+1 970 490 1511
 ☐ Middletown, PA
+1 717 944 5541
 ☐ York, PA
+1 717 505 5280

Customer Information		Project Information					Parameter/Method Request for Analysis												
Purchase Order		Project Name	BWON Annual Sampling					A Specific Gravity											
Work Order		Project Number						B											
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC					C											
Send Report To	Gabi Combs Tyler Turner	Invoice Attn	Susie Aguilar					D											
Address	P.O. Box 159	Address	501 East Main					E											
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210					F											
Phone	(575) 748-3311	Phone	(575) 748-3311					G											
Fax	(575) 746-5451	Fax	(575) 746-5451					H											
e-Mail Address	Gabriela.Combs@hollyfrontier.com tturner.am@gmail.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com					I											
HS18120496 Navajo Refining Company BWON Annual Sampling 																			
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	D-2101 Desalter Water	12/06/18	10:59 AM	Liquid	8	1	X												
2	D-2101 Desalter HC	12/06/18	10:42 AM	Liquid	8	1	X												
3	D-130 Desalter Water	12/06/18	9:15 AM	Liquid	8	1	X												
4	D-130 Desalter HC	12/06/18	8:54 AM	Liquid	8	1	X												
5	D-482 Water	12/06/18	9:29 AM	Liquid	8	1	X												
6	P-185 Strainer Water	12/06/18	10:04 AM	Liquid	8	1	X												
7	T-401 ISOM	12/05/18	3:09 AM	Liquid	8	1	X												
8	T-401 Water	12/05/18	3:04 AM	Liquid	8	1	X												
9	T-401 Sump Water	12/05/18	3:15 AM	Liquid	8	1	X												
10	T-401 Sump Gasoline Blend	12/05/18	3:15 AM	Liquid	8	1	X												
Sampler(s): Please Print & Sign <i>Brady Hubbard</i>		Shipment Method:		Required Turnaround Time:				Results Due Date:											
		FedEx		☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour															
Relinquished by: <i>Brady Hubbard</i>	Date: <i>12-6-18</i>	Time: <i>4:00</i>	Received by:				Notes:												
Relinquished by:	Date: <i>12/7/18</i>	Time: <i>10:00</i>	Received by (Laboratory): <i>S. Aguilar</i>				Cooler Temp. <i>1.3</i>												
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):				QC Package: (Check Box Below)												
							☐ Level II: Standard QC ☐ TRRP-Checklist												
							☐ Level III: Std QC + Raw Data ☐ TRRP Level IV												
							☐ Level IV: SW846 CLP-Like												
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																			
Other: _____																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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Chain of Custody Form

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+1 717 944 5541

☐ York, PA
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Customer Information			ALS Project Manager:				Work Order #:		Parameter/Method Request for Analysis									
Project Information																		
Purchase Order		Project Name	BWON Annual Sampling				A	Specific Gravity										
Work Order		Project Number					B											
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC				C											
Send Report To	Gabi Combs Tyler Turner	Invoice Attn	Susie Aguilar				D											
Address	P.O. Box 159	Address	501 East Main				E											
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210				F											
Phone	(575) 748-3311	Phone	(575) 748-3311				G											
Fax	(575) 746-5451	Fax	(575) 746-5451				H											
e-Mail Address	Gabriela.Combs@hollyfrontier.com tturner.am@gmail.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com				I											
							J											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
1	D-180 Naptha	12/06/18	11:30 AM	Liquid	8	1	X											
2	70-C-350 Naptha	12/06/18	8:50 AM	Liquid	8	1	X											
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
Sampler(s): Please Print & Sign			Shipment Method:		Required Turnaround Time:			Other			Results Due Date:							
			FedEX		☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour													
Relinquished by:		Date:	Time:	Received by:			Notes:											
Relinquished by:		Date:	Time:	Received by (Laboratory):														
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):														
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035							Cooler Temp. QC Package: (Check Box Below) ☐ Level II: Standard QC ☐ TRRP-Checklist ☐ Level III: Std QC + Raw Data ☐ TRRP Level IV ☐ Level IV: SW846 CLP-Like Other: _____											

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590718 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Stancliff Suite 210 HOUSTON TX 77099 US		FX 18 Compliant FedEx Express CAFE3211	
<i>Two completed and signed copies of this Declaration must be handed to the operator</i>		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS This shipment is within the limitations prescribed for: (delete non applicable) CARGO AIRCRAFT ONLY Airport of Departure ARTESIA		Shipment type: (delete non applicable) NON-RADIOACTIVE	
Airport of Destination: HOUSTON ABGSA			
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 1267, Petroleum crude oil, 3, I// 80 ml//361 UN 1268, Petroleum distillates, n.o.s., 3, III// 160 ml//366 UN 3082, Environmentally hazardous substance, liquid, n.o.s. (AMMONIA, ANHYDROUS, HYDROGEN SULFIDE), 9, III// 160 ml//964 All Packed in One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24 Hour Emergency Response- CHEMTREC 1800-424-9300 CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia NM 12/05/2018 Signature Brady Hubbard (see warning above) 	
18224249300 <i>Emergency Telephone Number</i>			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

LOGOS #152295 11/12

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ORIGIN ID: ROMA (575) 940-7836 NAVAJO REFINING COMPANY 501 E MAIN ARTESIA, NM 88219 UNITED STATES US		SHIP DATE: 08DEC18 ACTWGT: 39.09 LB MAN CAD: 0477385CAFEE211 BILL RECIPIENT	
TO: COREY GRANDITS ALS 10450 STANCLIFF SUITE 210 HOUSTON TX 77099 INV: 530-5666 DEPT:			
551C1F1FE104C			
TRK# 7093 0859 0718 9201 AB SGRA TX-US IAH 77099 ADG DEC 07 2018		Dangerous Goods as per attached DGD-CAO FRI: 07 DEC 10:30A PRIORITY OVERNIGHT 95 11712	



14-Dec-2018

Corey Grandits
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS18120496**

Work Order: **1812650**

Dear Corey,

ALS Environmental received 12 samples on 11-Dec-2018 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 19.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 998501

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Environmental

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HFNA-000003074

ALS Group, USA

Date: 14-Dec-18

Client: ALS Environmental

Project: HS18120496

Work Order: 1812650

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1812650-01	HS18120496-01	Liquid	D-2101 Desalter Water	12/6/2018 10:59	12/11/2018 10:00	☐
1812650-02	HS18120496-02	Liquid	D-2101 Desalter HC	12/6/2018 10:42	12/11/2018 10:00	☐
1812650-03	HS18120496-03	Liquid	D-130 Desalter Water	12/6/2018 09:15	12/11/2018 10:00	☐
1812650-04	HS18120496-04	Liquid	D-130 Desalter HC	12/6/2018 08:54	12/11/2018 10:00	☐
1812650-05	HS18120496-05	Liquid	D-482 Water	12/6/2018 09:29	12/11/2018 10:00	☐
1812650-06	HS18120496-06	Liquid	P-185 Strainer Water	12/6/2018 10:04	12/11/2018 10:00	☐
1812650-07	HS18120496-07	Liquid	T-401 ISOM	12/5/2018 15:09	12/11/2018 10:00	☐
1812650-08	HS18120496-08	Liquid	T-401 Water	12/5/2018 15:04	12/11/2018 10:00	☐
1812650-09	HS18120496-09	Liquid	T-401 Sump Water	12/5/2018 15:15	12/11/2018 10:00	☐
1812650-10	HS18120496-10	Liquid	T-401 Sump Gasoline Blend	12/5/2018 15:15	12/11/2018 10:00	☐
1812650-11	HS18120496-11	Liquid	D-180 Naptha	12/6/2018 11:30	12/11/2018 10:00	☐
1812650-12	HS18120496-12	Liquid	70-C-350 Naptha	12/6/2018 08:50	12/11/2018 10:00	☐

ALS Group, USA

Date: 14-Dec-18

Client: ALS Environmental
Project: HS18120496
WorkOrder: 1812650

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
none	

ALS Group, USA**Date:** 14-Dec-18

Client: ALS Environmental
Project: HS18120496
Sample ID: HS18120496-01
Collection Date: 12/6/2018 10:59 AM

Work Order: 1812650
Lab ID: 1812650-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	0.999			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-18

Client: ALS Environmental
Project: HS18120496
Sample ID: HS18120496-02
Collection Date: 12/6/2018 10:42 AM

Work Order: 1812650
Lab ID: 1812650-02
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	0.770			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-18

Client: ALS Environmental
Project: HS18120496
Sample ID: HS18120496-03
Collection Date: 12/6/2018 09:15 AM

Work Order: 1812650
Lab ID: 1812650-03
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	1.00			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-18

Client: ALS Environmental
Project: HS18120496
Sample ID: HS18120496-04
Collection Date: 12/6/2018 08:54 AM

Work Order: 1812650
Lab ID: 1812650-04
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	0.789			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-18

Client: ALS Environmental
Project: HS18120496
Sample ID: HS18120496-05
Collection Date: 12/6/2018 09:29 AM

Work Order: 1812650
Lab ID: 1812650-05
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	0.995			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-18

Client: ALS Environmental
Project: HS18120496
Sample ID: HS18120496-06
Collection Date: 12/6/2018 10:04 AM

Work Order: 1812650
Lab ID: 1812650-06
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	1.00			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-18**Client:** ALS Environmental**Project:** HS18120496**Work Order:** 1812650**Sample ID:** HS18120496-07**Lab ID:** 1812650-07**Collection Date:** 12/5/2018 03:09 PM**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	0.658			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-18**Client:** ALS Environmental**Project:** HS18120496**Work Order:** 1812650**Sample ID:** HS18120496-08**Lab ID:** 1812650-08**Collection Date:** 12/5/2018 03:04 PM**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	0.671			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-18**Client:** ALS Environmental**Project:** HS18120496**Work Order:** 1812650**Sample ID:** HS18120496-09**Lab ID:** 1812650-09**Collection Date:** 12/5/2018 03:15 PM**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	0.716			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-18**Client:** ALS Environmental**Project:** HS18120496**Work Order:** 1812650**Sample ID:** HS18120496-10**Lab ID:** 1812650-10**Collection Date:** 12/5/2018 03:15 PM**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	0.726			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-18

Client: ALS Environmental
Project: HS18120496
Sample ID: HS18120496-11
Collection Date: 12/6/2018 11:30 AM

Work Order: 1812650
Lab ID: 1812650-11
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	0.700			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Dec-18

Client: ALS Environmental
Project: HS18120496
Sample ID: HS18120496-12
Collection Date: 12/6/2018 08:50 AM

Work Order: 1812650
Lab ID: 1812650-12
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: JSH
Specific Gravity	0.777			none	1	12/13/2018 03:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Dec-18

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1812650

Project: HS18120496

Batch ID: R251336

Instrument ID WETCHEM

Method: D5057-90

DUP		Sample ID: 1812650-05A DUP				Units: none		Analysis Date: 12/13/2018 03:15 PM		
Client ID: HS18120496-05		Run ID: WETCHEM_181213M		SeqNo: 5436592		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	1.005	0	0	0	0	0-0	0.9947	1.03	20	

DUP		Sample ID: 1812650-09A DUP				Units: none		Analysis Date: 12/13/2018 03:15 PM		
Client ID: HS18120496-09		Run ID: WETCHEM_181213M		SeqNo: 5436597		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	0.7188	0	0	0	0	0-0	0.7157	0.431	20	

The following samples were analyzed in this batch:

1812650-01A	1812650-02A	1812650-03A
1812650-04A	1812650-05A	1812650-06A
1812650-07A	1812650-08A	1812650-09A
1812650-10A	1812650-11A	1812650-12A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

1812650



10450 Standliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

COC ID: 10407

SUBCONTRACT TO:

ALS Laboratory Group
3352 128th Ave.
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: Corey Grandits
Address: 10450 Standliff Rd, Ste 210
Phone: +1 281 530 5656
Email: Corey.Grandits@alsglobal.com
Alternate Contact: Jumoke M. Lawal
Email: jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Standliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS18120496
TSR: Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	HS18120496-01	D-2101 Desalter Water	Liquid	06 Dec 2018 10:59
	Sub to ALS Holland			14 Dec 2018
2.	HS18120496-02	D-2101 Desalter HC	Liquid	06 Dec 2018 10:42
	Sub to ALS Holland			14 Dec 2018
3.	HS18120496-03	D-130 Desalter Water	Liquid	06 Dec 2018 09:15
	Sub to ALS Holland			14 Dec 2018
4.	HS18120496-04	D-130 Desalter HC	Liquid	06 Dec 2018 08:54
	Sub to ALS Holland			14 Dec 2018
5.	HS18120496-05	D-482 Water	Liquid	06 Dec 2018 09:29
	Sub to ALS Holland			14 Dec 2018
6.	HS18120496-06	P-185 Strainer Water	Liquid	06 Dec 2018 10:04
	Sub to ALS Holland			14 Dec 2018
7.	HS18120496-07	T-401 ISOM	Liquid	05 Dec 2018 15:09
	Sub to ALS Holland			14 Dec 2018
8.	HS18120496-08	T-401 Water	Liquid	05 Dec 2018 15:04
	Sub to ALS Holland			14 Dec 2018
9.	HS18120496-09	T-401 Sump Water	Liquid	05 Dec 2018 15:15

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10 Dec 2018

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Page 1 of 1

RIGHT SOLUTIONS | RIGHT PARTNER

HFNA-000003090



Subcontract Chain of Custody

COC ID: 10407

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
Sub to ALS Holland			14 Dec 2018
10. HS18120496-10	T-401 Sump Gasoline Blend	Liquid	05 Dec 2018 15:15
Sub to ALS Holland			14 Dec 2018
11. HS18120496-11	D-180 Naptha	Liquid	06 Dec 2018 11:30
Sub to ALS Holland			14 Dec 2018
12. HS18120496-12	70-C-350 Naptha	Liquid	06 Dec 2018 08:50
Sub to ALS Holland			14 Dec 2018

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By:

Date/Time:

12/10/18 18:00

Received By:

Date/Time:

12/11/18 1000

Cooler ID(s):

Temperature(s):

SR2 4.6°C

10 Dec 2018

Page 7 of 2

ALS Group, USA

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**Date/Time Received: **11-Dec-18 10:00**Work Order: **1812650**Received by: **DS**Checklist completed by Diane Shana
eSignature11-Dec-18
DateReviewed by: Chad Whilton
eSignature11-Dec-18
DateMatrices: **Liquid**Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒No ☐Not Present ☐

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

Chain of custody signed when relinquished and received?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Sample(s) received on ice?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

4.6/4.6 c

SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

12/11/2018 3:53:52 PM

Water - VOA vials have zero headspace?

Yes ☐No ☐No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐No ☐N/A ☒

pH adjusted?

Yes ☐No ☐N/A ☒

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

December 20, 2018

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS18120510**

Laboratory Results for: **BWON Annual Sampling**

Dear Gabriela,

ALS Environmental received 18 sample(s) on Dec 07, 2018 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: COREY.GRANDITS
Corey Grandits
Project Manager

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Work Order: HS18120510

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS18120510-01	D-2101 Desalter Water	Liquid		06-Dec-2018 10:59	07-Dec-2018 10:00	☐
HS18120510-02	D-2101 Desalter HC	Liquid		06-Dec-2018 10:42	07-Dec-2018 10:00	☐
HS18120510-03	D-130 Desalter Water	Liquid		06-Dec-2018 09:15	07-Dec-2018 10:00	☐
HS18120510-04	D-130 Desalter HC	Liquid		06-Dec-2018 08:54	07-Dec-2018 10:00	☐
HS18120510-05	D-482 Water	Liquid		06-Dec-2018 09:29	07-Dec-2018 10:00	☐
HS18120510-06	P-185 Strainer Water	Liquid		06-Dec-2018 10:04	07-Dec-2018 10:00	☐
HS18120510-07	T-401 ISOM	Liquid		05-Dec-2018 15:09	07-Dec-2018 10:00	☐
HS18120510-08	T-401 Water	Liquid		05-Dec-2018 15:04	07-Dec-2018 10:00	☐
HS18120510-09	T-401 Sump Water	Liquid		05-Dec-2018 15:15	07-Dec-2018 10:00	☐
HS18120510-10	T-401 Sump Gasoline Blend	Liquid		05-Dec-2018 15:15	07-Dec-2018 10:00	☐
HS18120510-11	D-180 Naptha	Liquid		06-Dec-2018 11:30	07-Dec-2018 10:00	☐
HS18120510-12	70-C-350 Naptha	Liquid		06-Dec-2018 08:50	07-Dec-2018 10:00	☐
HS18120510-13	Field Blank	Liquid		06-Dec-2018 09:27	07-Dec-2018 10:00	☐
HS18120510-14	Trip Blank	Liquid		06-Dec-2018 00:00	07-Dec-2018 10:00	☐
HS18120510-15	EQ Blank Port 1	Liquid		06-Dec-2018 13:30	07-Dec-2018 10:00	☐
HS18120510-16	EQ Blank Port 2	Liquid		06-Dec-2018 13:30	07-Dec-2018 10:00	☐
HS18120510-17	EQ Blank Port 3	Liquid		06-Dec-2018 13:30	07-Dec-2018 10:00	☐
HS18120510-18	Duplicate	Liquid		05-Dec-2018 00:00	07-Dec-2018 10:00	☐

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company**Project:** BWON Annual Sampling**Work Order:** HS18120510**CASE NARRATIVE****GCMS Volatiles by Method SW8260****Batch ID: R329602****Sample ID:** D-482 Water (HS18120510-05)

- Lowest practical dilution for sample hs18120510-05. Sample is oily.

Batch ID: R329345**Sample ID:** HS18120216-12MS

- MS and MSD are for an unrelated sample

Batch ID: R329225,R329435,R329443

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: D-2101 Desalter Water
Collection Date: 06-Dec-2018 10:59

ANALYTICAL REPORT

WorkOrder:HS18120510
Lab ID:HS18120510-01
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260				Analyst: PC	
Benzene	120		0.60	5.0	mg/L	1000	13-Dec-2018 15:34
<i>Surr: 1,2-Dichloroethane-d4</i>	98.0			70-126	%REC	1000	13-Dec-2018 15:34
<i>Surr: 4-Bromofluorobenzene</i>	99.0			82-124	%REC	1000	13-Dec-2018 15:34
<i>Surr: Dibromofluoromethane</i>	99.6			77-123	%REC	1000	13-Dec-2018 15:34
<i>Surr: Toluene-d8</i>	98.9			82-127	%REC	1000	13-Dec-2018 15:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: D-2101 Desalter HC
 Collection Date: 06-Dec-2018 10:42

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-02
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260					Analyst: WLR
Benzene	3,900		24	240	mg/Kg	50000	13-Dec-2018 12:27
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>101</i>			<i>70-126</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 12:27</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 12:27</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 12:27</i>
<i>Surr: Toluene-d8</i>	<i>106</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 12:27</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: D-130 Desalter Water
Collection Date: 06-Dec-2018 09:15

ANALYTICAL REPORT

WorkOrder:HS18120510
Lab ID:HS18120510-03
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	69		0.60	5.0	mg/L	1000	13-Dec-2018 16:46
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>96.4</i>			<i>70-126</i>	<i>%REC</i>	<i>1000</i>	<i>13-Dec-2018 16:46</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>102</i>			<i>82-124</i>	<i>%REC</i>	<i>1000</i>	<i>13-Dec-2018 16:46</i>
<i>Surr: Dibromofluoromethane</i>	<i>98.0</i>			<i>77-123</i>	<i>%REC</i>	<i>1000</i>	<i>13-Dec-2018 16:46</i>
<i>Surr: Toluene-d8</i>	<i>98.1</i>			<i>82-127</i>	<i>%REC</i>	<i>1000</i>	<i>13-Dec-2018 16:46</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: D-130 Desalter HC
 Collection Date: 06-Dec-2018 08:54

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-04
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260				Analyst: WLR	
Benzene	5,200		25	250	mg/Kg	50000	13-Dec-2018 12:48
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>101</i>			<i>70-126</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 12:48</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 12:48</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 12:48</i>
<i>Surr: Toluene-d8</i>	<i>107</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 12:48</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: D-482 Water
 Collection Date: 06-Dec-2018 09:29

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-05
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260				Analyst: PC	
Benzene	1.9	J	0.30	2.5	mg/L	500	19-Dec-2018 17:46
<i>Surr: 1,2-Dichloroethane-d4</i>	97.9			70-126	%REC	500	19-Dec-2018 17:46
<i>Surr: 4-Bromofluorobenzene</i>	95.8			82-124	%REC	500	19-Dec-2018 17:46
<i>Surr: Dibromofluoromethane</i>	99.5			77-123	%REC	500	19-Dec-2018 17:46
<i>Surr: Toluene-d8</i>	98.4			82-127	%REC	500	19-Dec-2018 17:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Sample ID: P-185 Strainer Water
Collection Date: 06-Dec-2018 10:04

ANALYTICAL REPORT

WorkOrder:HS18120510
Lab ID:HS18120510-06
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260				Analyst: PC	
Benzene	48		0.60	5.0	mg/L	1000	19-Dec-2018 21:49
<i>Surr: 1,2-Dichloroethane-d4</i>	98.9			70-126	%REC	1000	19-Dec-2018 21:49
<i>Surr: 4-Bromofluorobenzene</i>	97.3			82-124	%REC	1000	19-Dec-2018 21:49
<i>Surr: Dibromofluoromethane</i>	99.9			77-123	%REC	1000	19-Dec-2018 21:49
<i>Surr: Toluene-d8</i>	97.0			82-127	%REC	1000	19-Dec-2018 21:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: T-401 ISOM
 Collection Date: 05-Dec-2018 15:09

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-07
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260				Analyst: WLR	
Benzene	2,100		24	240	mg/Kg	50000	13-Dec-2018 15:22
<i>Surr: 1,2-Dichloroethane-d4</i>	99.4			70-126	%REC	50000	13-Dec-2018 15:22
<i>Surr: 4-Bromofluorobenzene</i>	104			70-130	%REC	50000	13-Dec-2018 15:22
<i>Surr: Dibromofluoromethane</i>	98.9			70-130	%REC	50000	13-Dec-2018 15:22
<i>Surr: Toluene-d8</i>	106			70-130	%REC	50000	13-Dec-2018 15:22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: T-401 Water
 Collection Date: 05-Dec-2018 15:04

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-08
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260				Analyst: WLR	
Benzene	1,900		25	250	mg/Kg	50000	18-Dec-2018 11:07
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>88.3</i>			<i>70-126</i>	<i>%REC</i>	<i>50000</i>	<i>18-Dec-2018 11:07</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>104</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>18-Dec-2018 11:07</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>18-Dec-2018 11:07</i>
<i>Surr: Toluene-d8</i>	<i>103</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>18-Dec-2018 11:07</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: T-401 Sump Water
 Collection Date: 05-Dec-2018 15:15

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-09
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260				Analyst: WLR	
Benzene	2,200		24	240	mg/Kg	50000	18-Dec-2018 11:29
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>100</i>			<i>70-126</i>	<i>%REC</i>	<i>50000</i>	<i>18-Dec-2018 11:29</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>103</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>18-Dec-2018 11:29</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>18-Dec-2018 11:29</i>
<i>Surr: Toluene-d8</i>	<i>105</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>18-Dec-2018 11:29</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: T-401 Sump Gasoline Blend
 Collection Date: 05-Dec-2018 15:15

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-10
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260				Analyst: WLR	
Benzene	2,500		25	250	mg/Kg	50000	13-Dec-2018 15:00
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>98.4</i>			<i>70-126</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 15:00</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>104</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 15:00</i>
<i>Surr: Dibromofluoromethane</i>	<i>100</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 15:00</i>
<i>Surr: Toluene-d8</i>	<i>105</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 15:00</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: D-180 Naptha
 Collection Date: 06-Dec-2018 11:30

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-11
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260				Analyst: WLR	
Benzene	7,200		24	240	mg/Kg	50000	13-Dec-2018 13:53
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>101</i>			<i>70-126</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 13:53</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>96.8</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 13:53</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 13:53</i>
<i>Surr: Toluene-d8</i>	<i>107</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 13:53</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: 70-C-350 Naptha
 Collection Date: 06-Dec-2018 08:50

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-12
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260				Analyst: WLR	
Benzene	3,700		25	250	mg/Kg	50000	13-Dec-2018 14:15
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>100</i>			<i>70-126</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 14:15</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 14:15</i>
<i>Surr: Dibromofluoromethane</i>	<i>99.8</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 14:15</i>
<i>Surr: Toluene-d8</i>	<i>108</i>			<i>70-130</i>	<i>%REC</i>	<i>50000</i>	<i>13-Dec-2018 14:15</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: Field Blank
 Collection Date: 06-Dec-2018 09:27

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-13
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	15-Dec-2018 06:32
Surr: 1,2-Dichloroethane-d4	96.3			70-126	%REC	1	15-Dec-2018 06:32
Surr: 4-Bromofluorobenzene	98.7			82-124	%REC	1	15-Dec-2018 06:32
Surr: Dibromofluoromethane	98.1			77-123	%REC	1	15-Dec-2018 06:32
Surr: Toluene-d8	98.0			82-127	%REC	1	15-Dec-2018 06:32

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: Trip Blank
 Collection Date: 06-Dec-2018 00:00

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-14
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260					Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	15-Dec-2018 06:56
Surr: 1,2-Dichloroethane-d4	98.3			70-126	%REC	1	15-Dec-2018 06:56
Surr: 4-Bromofluorobenzene	97.7			82-124	%REC	1	15-Dec-2018 06:56
Surr: Dibromofluoromethane	99.8			77-123	%REC	1	15-Dec-2018 06:56
Surr: Toluene-d8	101			82-127	%REC	1	15-Dec-2018 06:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: EQ Blank Port 1
 Collection Date: 06-Dec-2018 13:30

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-15
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	15-Dec-2018 07:20
Surr: 1,2-Dichloroethane-d4	95.0			70-126	%REC	1	15-Dec-2018 07:20
Surr: 4-Bromofluorobenzene	101			82-124	%REC	1	15-Dec-2018 07:20
Surr: Dibromofluoromethane	98.0			77-123	%REC	1	15-Dec-2018 07:20
Surr: Toluene-d8	96.5			82-127	%REC	1	15-Dec-2018 07:20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: EQ Blank Port 2
 Collection Date: 06-Dec-2018 13:30

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-16
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	15-Dec-2018 07:44
Surr: 1,2-Dichloroethane-d4	96.9			70-126	%REC	1	15-Dec-2018 07:44
Surr: 4-Bromofluorobenzene	97.7			82-124	%REC	1	15-Dec-2018 07:44
Surr: Dibromofluoromethane	97.7			77-123	%REC	1	15-Dec-2018 07:44
Surr: Toluene-d8	102			82-127	%REC	1	15-Dec-2018 07:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: EQ Blank Port 3
 Collection Date: 06-Dec-2018 13:30

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-17
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	17-Dec-2018 17:21
Surr: 1,2-Dichloroethane-d4	91.0			70-126	%REC	1	17-Dec-2018 17:21
Surr: 4-Bromofluorobenzene	98.0			82-124	%REC	1	17-Dec-2018 17:21
Surr: Dibromofluoromethane	87.6			77-123	%REC	1	17-Dec-2018 17:21
Surr: Toluene-d8	105			82-127	%REC	1	17-Dec-2018 17:21

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 Sample ID: Duplicate
 Collection Date: 05-Dec-2018 00:00

ANALYTICAL REPORT

WorkOrder:HS18120510
 Lab ID:HS18120510-18
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260				Analyst: WLR	
Benzene	1,700		24	240	mg/Kg	50000	18-Dec-2018 11:52
<i>Surr: 1,2-Dichloroethane-d4</i>	96.9			70-126	%REC	50000	18-Dec-2018 11:52
<i>Surr: 4-Bromofluorobenzene</i>	102			70-130	%REC	50000	18-Dec-2018 11:52
<i>Surr: Dibromofluoromethane</i>	97.0			70-130	%REC	50000	18-Dec-2018 11:52
<i>Surr: Toluene-d8</i>	103			70-130	%REC	50000	18-Dec-2018 11:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Navajo Refining Company

Project: BWON Annual Sampling

WorkOrder: HS18120510

Batch ID: 2819 Method: VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS18120510-02	1	5.136 (g)	5 (mL)	0.97	Bulk (5030B)
HS18120510-04	1	4.98 (g)	5 (mL)	1	Bulk (5030B)
HS18120510-07	1	5.222 (g)	5 (mL)	0.96	Bulk (5030B)
HS18120510-10	1	4.99 (g)	5 (mL)	1	Bulk (5030B)
HS18120510-11	1	5.277 (g)	5 (mL)	0.95	Bulk (5030B)
HS18120510-12	1	4.972 (g)	5 (mL)	1.01	Bulk (5030B)

Batch ID: 2830 Method: VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS18120510-08	1	4.996 (g)	5 (mL)	1	Bulk (5030B)
HS18120510-09	1	5.1 (g)	5 (mL)	0.98	Bulk (5030B)
HS18120510-18	1	5.106 (g)	5 (mL)	0.98	Bulk (5030B)

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
WorkOrder: HS18120510

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R329126 Test Name : VOLATILES BY SW8260C Matrix: Liquid						
HS18120510-02	D-2101 Desalter HC	06 Dec 2018 10:42			13 Dec 2018 12:27	5000 0
HS18120510-04	D-130 Desalter HC	06 Dec 2018 08:54			13 Dec 2018 12:48	5000 0
HS18120510-07	T-401 ISOM	05 Dec 2018 15:09			13 Dec 2018 15:22	5000 0
HS18120510-10	T-401 Sump Gasoline Blend	05 Dec 2018 15:15			13 Dec 2018 15:00	5000 0
HS18120510-11	D-180 Naptha	06 Dec 2018 11:30			13 Dec 2018 13:53	5000 0
HS18120510-12	70-C-350 Naptha	06 Dec 2018 08:50			13 Dec 2018 14:15	5000 0
Batch ID R329225 Test Name : VOLATILES - SW8260C Matrix: Liquid						
HS18120510-01	D-2101 Desalter Water	06 Dec 2018 10:59			13 Dec 2018 15:34	1000
HS18120510-03	D-130 Desalter Water	06 Dec 2018 09:15			13 Dec 2018 16:46	1000
Batch ID R329345 Test Name : VOLATILES - SW8260C Matrix: Liquid						
HS18120510-13	Field Blank	06 Dec 2018 09:27			15 Dec 2018 06:32	1
HS18120510-14	Trip Blank	06 Dec 2018 00:00			15 Dec 2018 06:56	1
HS18120510-15	EQ Blank Port 1	06 Dec 2018 13:30			15 Dec 2018 07:20	1
HS18120510-16	EQ Blank Port 2	06 Dec 2018 13:30			15 Dec 2018 07:44	1
Batch ID R329435 Test Name : VOLATILES BY SW8260C Matrix: Liquid						
HS18120510-08	T-401 Water	05 Dec 2018 15:04			18 Dec 2018 11:07	5000 0
HS18120510-09	T-401 Sump Water	05 Dec 2018 15:15			18 Dec 2018 11:29	5000 0
HS18120510-18	Duplicate	05 Dec 2018 00:00			18 Dec 2018 11:52	5000 0
Batch ID R329443 Test Name : VOLATILES - SW8260C Matrix: Liquid						
HS18120510-17	EQ Blank Port 3	06 Dec 2018 13:30			17 Dec 2018 17:21	1
Batch ID R329602 Test Name : VOLATILES - SW8260C Matrix: Liquid						
HS18120510-05	D-482 Water	06 Dec 2018 09:29			19 Dec 2018 17:46	500
HS18120510-06	P-185 Strainer Water	06 Dec 2018 10:04			19 Dec 2018 21:49	1000

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329126		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: MBLKW1-121318	Units: ug/Kg		Analysis Date: 13-Dec-2018 08:23					
Client ID:	Run ID: VOA8_329126	SeqNo: 4861889		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2456	0	2500	0	98.2	76 - 125			
Surr: 4-Bromofluorobenzene	2370	0	2500	0	94.8	80 - 120			
Surr: Dibromofluoromethane	2526	0	2500	0	101	80 - 119			
Surr: Toluene-d8	2700	0	2500	0	108	81 - 118			

LCS	Sample ID: VLCSW1-121318	Units: ug/Kg		Analysis Date: 13-Dec-2018 07:39					
Client ID:	Run ID: VOA8_329126	SeqNo: 4861888		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	50.15	5.0	50	0	100	75 - 124			
Surr: 1,2-Dichloroethane-d4	51.21	0	50	0	102	76 - 125			
Surr: 4-Bromofluorobenzene	50.73	0	50	0	101	80 - 120			
Surr: Dibromofluoromethane	48.03	0	50	0	96.1	80 - 119			
Surr: Toluene-d8	52.48	0	50	0	105	81 - 118			

MS	Sample ID: HS18120402-01MS	Units: ug/Kg		Analysis Date: 13-Dec-2018 10:34					
Client ID:	Run ID: VOA8_329126	SeqNo: 4862550		PrepDate:		DF: 500			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	31430	2500	25000	371.3	124	70 - 130			
Surr: 1,2-Dichloroethane-d4	21900	0	25000	0	87.6	70 - 126			
Surr: 4-Bromofluorobenzene	27870	0	25000	0	111	70 - 130			
Surr: Dibromofluoromethane	24450	0	25000	0	97.8	70 - 130			
Surr: Toluene-d8	25180	0	25000	0	101	70 - 130			

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Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329126		Instrument: VOA8		Method: SW8260						
MSD	Sample ID: HS18120402-01MSD	Units: ug/Kg			Analysis Date: 13-Dec-2018 10:56					
Client ID:	Run ID: VOA8_329126	SeqNo: 4862551		PrepDate:		DF: 500				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	28140	2500	25000	371.3	111	70 - 130	31430	11	30	
Surr: 1,2-Dichloroethane-d4	21760	0	25000	0	87.0	70 - 126	21900	0.654	30	
Surr: 4-Bromofluorobenzene	27700	0	25000	0	111	70 - 130	27870	0.622	30	
Surr: Dibromofluoromethane	24340	0	25000	0	97.4	70 - 130	24450	0.463	30	
Surr: Toluene-d8	25250	0	25000	0	101	70 - 130	25180	0.28	30	
The following samples were analyzed in this batch:		HS18120510-02 HS18120510-11		HS18120510-04 HS18120510-12		HS18120510-07		HS18120510-10		

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Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329225		Instrument: VOA6		Method: SW8260					
MBLK	Sample ID: VBLKW-181213	Units: ug/L		Analysis Date: 13-Dec-2018 11:58					
Client ID:	Run ID: VOA6_329225	SeqNo: 4864408		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	48.44	0	50	0	96.9	70 - 130			
Surr: 4-Bromofluorobenzene	48.87	0	50	0	97.7	82 - 115			
Surr: Dibromofluoromethane	48.86	0	50	0	97.7	73 - 126			
Surr: Toluene-d8	49.91	0	50	0	99.8	81 - 120			

LCS	Sample ID: VLCSW-181213	Units: ug/L		Analysis Date: 13-Dec-2018 11:09					
Client ID:	Run ID: VOA6_329225	SeqNo: 4864407		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	18.7	5.0	20	0	93.5	74 - 120			
Surr: 1,2-Dichloroethane-d4	47.96	0	50	0	95.9	70 - 130			
Surr: 4-Bromofluorobenzene	50.61	0	50	0	101	82 - 115			
Surr: Dibromofluoromethane	49.9	0	50	0	99.8	73 - 126			
Surr: Toluene-d8	49.25	0	50	0	98.5	81 - 120			

MS	Sample ID: HS18120196-02MS	Units: ug/L		Analysis Date: 13-Dec-2018 15:58					
Client ID:	Run ID: VOA6_329225	SeqNo: 4864415		PrepDate:		DF: 20			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	392	100	400	0	98.0	70 - 127			
Surr: 1,2-Dichloroethane-d4	950.7	0	1000	0	95.1	70 - 126			
Surr: 4-Bromofluorobenzene	1014	0	1000	0	101	82 - 124			
Surr: Dibromofluoromethane	987.5	0	1000	0	98.8	77 - 123			
Surr: Toluene-d8	995	0	1000	0	99.5	82 - 127			

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Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329225		Instrument: VOA6		Method: SW8260						
MSD	Sample ID: HS18120196-02MSD	Units: ug/L			Analysis Date: 13-Dec-2018 16:22					
Client ID:	Run ID: VOA6_329225	SeqNo: 4864416			PrepDate:			DF: 20		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	407.8	100	400	0	102	70 - 127	392	3.94	20	
Surr: 1,2-Dichloroethane-d4	941.4	0	1000	0	94.1	70 - 126	950.7	0.987	20	
Surr: 4-Bromofluorobenzene	1013	0	1000	0	101	82 - 124	1014	0.0954	20	
Surr: Dibromofluoromethane	984.5	0	1000	0	98.4	77 - 123	987.5	0.308	20	
Surr: Toluene-d8	979.7	0	1000	0	98.0	82 - 127	995	1.55	20	
The following samples were analyzed in this batch:		HS18120510-01		HS18120510-03						

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Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329345		Instrument: VOA6		Method: SW8260					
MBLK	Sample ID: VBLKW-181214	Units: ug/L		Analysis Date: 14-Dec-2018 22:55					
Client ID:	Run ID: VOA6_329345	SeqNo: 4867570		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	47.35	0	50	0	94.7	70 - 130			
Surr: 4-Bromofluorobenzene	49.09	0	50	0	98.2	82 - 115			
Surr: Dibromofluoromethane	48.43	0	50	0	96.9	73 - 126			
Surr: Toluene-d8	49.72	0	50	0	99.4	81 - 120			

LCS	Sample ID: VLCSW-181214	Units: ug/L		Analysis Date: 14-Dec-2018 22:07					
Client ID:	Run ID: VOA6_329345	SeqNo: 4867569		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	19.31	5.0	20	0	96.5	74 - 120			
Surr: 1,2-Dichloroethane-d4	47.8	0	50	0	95.6	70 - 130			
Surr: 4-Bromofluorobenzene	49.31	0	50	0	98.6	82 - 115			
Surr: Dibromofluoromethane	49.4	0	50	0	98.8	73 - 126			
Surr: Toluene-d8	49.42	0	50	0	98.8	81 - 120			

MS	Sample ID: HS18120216-12MS	Units: ug/L		Analysis Date: 15-Dec-2018 00:31					
Client ID:	Run ID: VOA6_329345	SeqNo: 4867574		PrepDate:		DF: 250			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	11570	1200	5000	1951	192	70 - 127			S
Surr: 1,2-Dichloroethane-d4	11830	0	12500	0	94.7	70 - 126			
Surr: 4-Bromofluorobenzene	12350	0	12500	0	98.8	82 - 124			
Surr: Dibromofluoromethane	12520	0	12500	0	100	77 - 123			
Surr: Toluene-d8	12450	0	12500	0	99.6	82 - 127			

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Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329345		Instrument: VOA6		Method: SW8260						
MSD	Sample ID: HS18120216-12MSD	Units: ug/L			Analysis Date: 15-Dec-2018 00:55					
Client ID:	Run ID: VOA6_329345	SeqNo: 4867575		PrepDate:		DF: 250				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	11550	1200	5000	1951	192	70 - 127	11570	0.135	20	S
Surr: 1,2-Dichloroethane-d4	11930	0	12500	0	95.4	70 - 126	11830	0.807	20	
Surr: 4-Bromofluorobenzene	12550	0	12500	0	100	82 - 124	12350	1.6	20	
Surr: Dibromofluoromethane	12350	0	12500	0	98.8	77 - 123	12520	1.41	20	
Surr: Toluene-d8	12040	0	12500	0	96.3	82 - 127	12450	3.42	20	
The following samples were analyzed in this batch:										
HS18120510-13		HS18120510-14		HS18120510-15		HS18120510-16				

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Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329435		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: MBLKW1-121818	Units: ug/Kg		Analysis Date: 18-Dec-2018 08:31					
Client ID:	Run ID: VOA8_329435	SeqNo: 4869787		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2453	0	2500	0	98.1	76 - 125			
Surr: 4-Bromofluorobenzene	2469	0	2500	0	98.8	80 - 120			
Surr: Dibromofluoromethane	2361	0	2500	0	94.5	80 - 119			
Surr: Toluene-d8	2605	0	2500	0	104	81 - 118			

LCS	Sample ID: VLCSW1-121818	Units: ug/Kg		Analysis Date: 18-Dec-2018 07:47					
Client ID:	Run ID: VOA8_329435	SeqNo: 4869786		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	49.92	5.0	50	0	99.8	75 - 124			
Surr: 1,2-Dichloroethane-d4	43.15	0	50	0	86.3	76 - 125			
Surr: 4-Bromofluorobenzene	51.54	0	50	0	103	80 - 120			
Surr: Dibromofluoromethane	47.98	0	50	0	96.0	80 - 119			
Surr: Toluene-d8	50.71	0	50	0	101	81 - 118			

MS	Sample ID: HS18120847-01MS	Units: ug/Kg		Analysis Date: 18-Dec-2018 14:03					
Client ID:	Run ID: VOA8_329435	SeqNo: 4871975		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	1959	240	2400	0	81.6	70 - 130			
Surr: 1,2-Dichloroethane-d4	2428	0	2400	0	101	70 - 126			
Surr: 4-Bromofluorobenzene	2591	0	2400	0	108	70 - 130			
Surr: Dibromofluoromethane	2395	0	2400	0	99.8	70 - 130			
Surr: Toluene-d8	2260	0	2400	0	94.2	70 - 130			

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Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329435		Instrument: VOA8		Method: SW8260						
MSD	Sample ID: HS18120847-01MSD	Units: ug/Kg			Analysis Date: 18-Dec-2018 14:46					
Client ID:	Run ID: VOA8_329435	SeqNo: 4871977			PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	2078	240	2400	0	86.6	70 - 130	1959	5.9	30	
Surr: 1,2-Dichloroethane-d4	2432	0	2400	0	101	70 - 126	2428	0.18	30	
Surr: 4-Bromofluorobenzene	2515	0	2400	0	105	70 - 130	2591	2.97	30	
Surr: Dibromofluoromethane	2299	0	2400	0	95.8	70 - 130	2395	4.1	30	
Surr: Toluene-d8	2459	0	2400	0	102	70 - 130	2260	8.46	30	
The following samples were analyzed in this batch:		HS18120510-08		HS18120510-09		HS18120510-18				

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Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329443		Instrument: VOA9		Method: SW8260					
MBLK	Sample ID: VBLKW-181217	Units: ug/L		Analysis Date: 17-Dec-2018 11:35					
Client ID:	Run ID: VOA9_329443	SeqNo: 4869994		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	44.46	0	50	0	88.9	70 - 130			
Surr: 4-Bromofluorobenzene	49.69	0	50	0	99.4	82 - 115			
Surr: Dibromofluoromethane	43.2	0	50	0	86.4	73 - 126			
Surr: Toluene-d8	52.24	0	50	0	104	81 - 120			

LCS	Sample ID: VLCSW-1812017	Units: ug/L		Analysis Date: 17-Dec-2018 10:45					
Client ID:	Run ID: VOA9_329443	SeqNo: 4869993		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	21.49	5.0	20	0	107	74 - 120			
Surr: 1,2-Dichloroethane-d4	42	0	50	0	84.0	70 - 130			
Surr: 4-Bromofluorobenzene	51.9	0	50	0	104	82 - 115			
Surr: Dibromofluoromethane	43.75	0	50	0	87.5	73 - 126			
Surr: Toluene-d8	52.76	0	50	0	106	81 - 120			

MS	Sample ID: HS18120376-01MS	Units: ug/L		Analysis Date: 17-Dec-2018 15:42					
Client ID:	Run ID: VOA9_329443	SeqNo: 4870004		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	26.42	5.0	20	0	132	70 - 127			S
Surr: 1,2-Dichloroethane-d4	44.6	0	50	0	89.2	70 - 126			
Surr: 4-Bromofluorobenzene	51.11	0	50	0	102	82 - 124			
Surr: Dibromofluoromethane	44.35	0	50	0	88.7	77 - 123			
Surr: Toluene-d8	53.1	0	50	0	106	82 - 127			

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Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329443		Instrument: VOA9		Method: SW8260						
MSD	Sample ID: HS18120376-01MSD		Units: ug/L		Analysis Date: 17-Dec-2018 16:07					
Client ID:		Run ID: VOA9_329443		SeqNo: 4870005		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	25.89	5.0	20	0	129	70 - 127	26.42	2.01	20	S
Surr: 1,2-Dichloroethane-d4	43.98	0	50	0	88.0	70 - 126	44.6	1.41	20	
Surr: 4-Bromofluorobenzene	51.25	0	50	0	103	82 - 124	51.11	0.267	20	
Surr: Dibromofluoromethane	44.84	0	50	0	89.7	77 - 123	44.35	1.1	20	
Surr: Toluene-d8	52.63	0	50	0	105	82 - 127	53.1	0.886	20	
The following samples were analyzed in this batch: HS18120510-17										

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Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329602		Instrument: VOA6		Method: SW8260					
MBLK	Sample ID: VBLKW-181219	Units: ug/L		Analysis Date: 19-Dec-2018 13:45					
Client ID:	Run ID: VOA6_329602	SeqNo: 4873605		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	49.44	0	50	0	98.9	70 - 130			
Surr: 4-Bromofluorobenzene	47.69	0	50	0	95.4	82 - 115			
Surr: Dibromofluoromethane	49.5	0	50	0	99.0	73 - 126			
Surr: Toluene-d8	48.8	0	50	0	97.6	81 - 120			

LCS	Sample ID: VLCSW-181219	Units: ug/L		Analysis Date: 19-Dec-2018 12:57					
Client ID:	Run ID: VOA6_329602	SeqNo: 4873604		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	18.23	5.0	20	0	91.2	74 - 120			
Surr: 1,2-Dichloroethane-d4	49.72	0	50	0	99.4	70 - 130			
Surr: 4-Bromofluorobenzene	48.25	0	50	0	96.5	82 - 115			
Surr: Dibromofluoromethane	50.35	0	50	0	101	73 - 126			
Surr: Toluene-d8	48.5	0	50	0	97.0	81 - 120			

MS	Sample ID: HS18120493-02MS	Units: ug/L		Analysis Date: 19-Dec-2018 16:10					
Client ID:	Run ID: VOA6_329602	SeqNo: 4873750		PrepDate:		DF: 2000			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	37840	10000	40000	0	94.6	70 - 127			
Surr: 1,2-Dichloroethane-d4	99280	0	100000	0	99.3	70 - 126			
Surr: 4-Bromofluorobenzene	99520	0	100000	0	99.5	82 - 124			
Surr: Dibromofluoromethane	102600	0	100000	0	103	77 - 123			
Surr: Toluene-d8	97440	0	100000	0	97.4	82 - 127			

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Date: 20-Dec-18

Client: Navajo Refining Company
 Project: BWON Annual Sampling
 WorkOrder: HS18120510

QC BATCH REPORT

Batch ID: R329602		Instrument: VOA6		Method: SW8260						
MSD	Sample ID: HS18120493-02MSD	Units: ug/L			Analysis Date: 19-Dec-2018 16:34					
Client ID:	Run ID: VOA6_329602	SeqNo: 4873751		PrepDate:		DF: 2000				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Benzene	38390	10000	40000	0	96.0	70 - 127	37840	1.43	20	
Surr: 1,2-Dichloroethane-d4	97310	0	100000	0	97.3	70 - 126	99280	2	20	
Surr: 4-Bromofluorobenzene	96520	0	100000	0	96.5	82 - 124	99520	3.06	20	
Surr: Dibromofluoromethane	101000	0	100000	0	101	77 - 123	102600	1.58	20	
Surr: Toluene-d8	95850	0	100000	0	95.9	82 - 127	97440	1.65	20	
The following samples were analyzed in this batch:		HS18120510-05		HS18120510-06						

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
WorkOrder: HS18120510

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

ALS Houston, US

Date: 20-Dec-18

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
North Carolina	624-2018	31-Dec-2018
Arkansas	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	22-Dec-2018
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019

ALS Houston, US

Date: 20-Dec-18

Client: Navajo Refining Company
Project: BWON Annual Sampling
Work Order: HS18120510

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS18120510-01	D-2101 Desalter Water	Login	12/10/2018 5:58:35 PM	JRM	Sub
HS18120510-02	D-2101 Desalter HC	Login	12/10/2018 5:58:35 PM	JRM	Sub
HS18120510-03	D-130 Desalter Water	Login	12/10/2018 5:58:35 PM	JRM	Sub
HS18120510-04	D-130 Desalter HC	Login	12/10/2018 5:58:35 PM	JRM	Sub
HS18120510-05	D-482 Water	Login	12/10/2018 5:58:35 PM	JRM	Sub
HS18120510-06	P-185 Strainer Water	Login	12/10/2018 5:58:35 PM	JRM	Sub
HS18120510-07	T-401 ISOM	Login	12/10/2018 5:58:35 PM	JRM	Sub
HS18120510-08	T-401 Water	Login	12/10/2018 5:58:35 PM	JRM	Sub
HS18120510-09	T-401 Sump Water	Login	12/10/2018 5:58:35 PM	JRM	Sub
HS18120510-10	T-401 Sump Gasoline Blend	Login	12/10/2018 5:58:35 PM	JRM	Sub
HS18120510-11	D-180 Naptha	Login	12/10/2018 5:58:35 PM	JRM	Sub
HS18120510-12	70-C-350 Naptha	Login	12/10/2018 5:58:35 PM	JRM	Sub

ALS Houston, US

Date: 20-Dec-18

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS18120510

Date/Time Received: **07-Dec-2018 10:00**
Received by: **JRM**

Checklist completed by:	<u>Jared R. Makan</u>	10-Dec-2018	Reviewed by:	<u>Corey Grandits</u>	12-Dec-2018
	eSignature	Date		eSignature	Date

Matrices: **Liquid**Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☐	No ☒	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☒
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	1.3c/1.6c UC/C IR25		
Cooler(s)/Kit(s):	Foam cooler		
Date/Time sample(s) sent to storage:	12/10/2018 16:00		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:			

Login Notes: **COC 2 of 2 not relinquished.**

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



Environmental

Chain of Custody Form

Page 1 of 2
☐ Cincinnati, OH
+1 513 733 5336

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☐ Salt Lake City, UT
+1 801 266 7700

☐ Everett, WA
+1 425 356 2600

☐ Houston, TX
+1 281 530 5656

☐ Spring City, PA
+1 610 948 4903

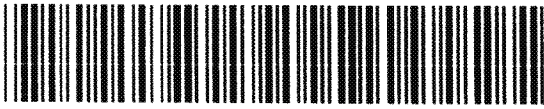
☐ Fort Collins, CO
+1 970 490 1511

☐ Middletown, PA
+1 717 944 5541

☐ York, PA
+1 717 505 5280

ALS Project Manager:

Work Order #:

Customer Information		Project Information					Parameter/Method Request for Analysis												
Purchase Order		Project Name	BWON Annual Sampling					A	VOLATILES (8260) Benzene										
Work Order		Project Number						B											
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC					C											
Send Report To	Gabi Combs Tyler Turner	Invoice Attn	Susie Aguilar					D											
Address	P.O. Box 159	Address	501 East Main					E	HS18120510 Navajo Refining Company BWON Annual Sampling 										
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210					F											
Phone	(575) 748-3311	Phone	(575) 748-3311					G											
Fax	(575) 746-5451	Fax	(575) 746-5451					H											
e-Mail Address	Gabriela.Combs@hollyfrontier.com tturner.am@gmail.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com					I											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	D-2101 Desalter Water	12/06/18	10:59 AM	Liquid	8	1	X												
2	D-2101 Desalter HC	12/06/18	10:42 AM	Liquid	8	1	X												
3	D-130 Desalter Water	12/06/18	9:15 AM	Liquid	8	1	X												
4	D-130 Desalter HC	12/06/18	8:54 AM	Liquid	8	1	X												
5	D-482 Water	12/06/18	9:29 AM	Liquid	1, 8	1	X												
6	P-185 Strainer Water	12/06/18	10:04 AM	Liquid	8	1	X												
7	T-401 ISOM	12/05/18	3:09 PM	Liquid	8	1	X												
8	T-401 Water	12/05/18	3:04 PM	Liquid	1, 8	1	X												
9	T-401 Sump Water	12/05/18	3:15 PM	Liquid	1, 8	1	X												
10	T-401 Sump Gasoline Blend	12/05/18	3:15 PM	Liquid	8	1	X												
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time:		Results Due Date:													
Brady Hissant		FedEX		☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour															
Relinquished by:		Date:	Time:	Received by:		Notes:													
Brady Hissant		12/6/18	4:00																
Relinquished by:		Date:	Time:	Received by (Laboratory):		Cooler Temp.		QC Package: (Check Box Below)											
		12/7/18	10:00	J. M. Adams		1-3		☐ Level II: Standard QC ☐ TRRP-Checklist ☐ Level III: Std QC + Raw Data ☐ TRRP Level IV ☐ Level IV: SW846 CLP-Like ☐ Other:											
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):															
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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Chain of Custody Form

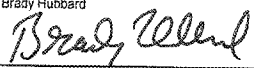
Page 2 of 2

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+1 970 490 1511
 ☐ Middletown, PA
+1 717 944 5541
 ☐ York, PA
+1 717 505 5280

Customer Information		Project Information					Parameter/Method Request for Analysis												
Purchase Order		Project Name	BWON Annual Sampling					VOLATILES (8260) Benzene											
Work Order		Project Number																	
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC																
Send Report To	Gabi Combs Tyler Turner	Invoice Attn.	Susie Aguilar																
Address	P.O. Box 159	Address	501 East Main					HS18120510 Navajo Refining Company BWON Annual Sampling 											
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210																
Phone	(575) 748-3311	Phone	(575) 748-3311																
Fax	(575) 746-5451	Fax	(575) 746-5451																
e-Mail Address	Gabriela.Combs@hollyfrontier.com tturner.am@gmail.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com																
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	D-180 Naptha	12/06/18	11:30 AM	Liquid	8	1													
2	70-C-350 Naptha	12/06/18	8:50 AM	Liquid	8	1													
3	Field Blank	12/06/18	9:27 AM	Liquid	1, 8	1													
4	Trip Blank	12/06/18	XXX	Liquid	1, 8	2													
5	EQ Blank Port 1	12/06/18	1:30 PM	Liquid	1, 8	1													
6	EQ Blank Port 2	12/06/18	1:30 PM	Liquid	1, 8	1													
7	EQ Blank Port 3	12/06/18	1:30 PM	Liquid	1, 8	1													
8	Duplicate	12/05/18	XXX	Liquid	8	1													
9	Temperature Blank	12/06/18	XXX	Liquid		1													
10																			
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time:				Results Due Date:											
		FedEx		☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour															
Relinquished by:	Date:	Time:	Received by:				Notes:												
Relinquished by:	Date:	Time:	Received by (Laboratory):				Cooler Temp.												
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):				QC Package: (Check Box Below)												
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035							Level II: Standard QC											TRRP-Checklist	
							Level III: Std QC + Raw Data											TRRP Level IV	
							Level IV: SW846 CLP-Like												
							Other:												

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590718 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Stanciff Suite 210 HOUSTON TX 77099 US		FedEx FX 18 Compliant Express CAFE3211	
<i>Two completed and signed copies of this Declaration must be handed to the operator</i>		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS			
This shipment is within the limitations prescribed for: (delete non applicable)	Airport of Departure ARTESIA		
☒ CARGO ☐ AIRCRAFT ☐ ONLY			
Airport of Destination: HOUSTON ABSGRA		Shipment type: (delete non applicable) ☒ NON-RADIOACTIVE	
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 1267, Petroleum crude oil, 3, I// 80 ml//361 UN 1268, Petroleum distillates, n.o.s., 3, III// 160 ml//366 UN 3082, Environmentally hazardous substance, liquid, n.o.s. (AMMONIA, ANHYDROUS, HYDROGEN SULFIDE), 9, III// 160 ml//964 All Packed In One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24 Hour Emergency Response- CHEMTREC 1800-424-9300 CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia NM 12/06/2018 Signature Brady Hubbard (see warning above) 	
18224249300 <i>Emergency Telephone Number</i>			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

LOGOS #157295 11/12

ATTACHMENT 7 - Provided in Enclosed CD

**NSPS SUBPART Ja EXCESS EMISSIONS
Period: July-December 2018
(Paragraph 18 Appendix E)**



January 30, 2019

Enforcement Manager
 New Mexico Environment Department
 525 Camino de Los Marquez, Suite 1
 Santa Fe, NM 87505

Certified Mail/Return Receipt
 7015 0640 0006 6577 7371

Re: NSPS Subpart Ja CMS Excess Emissions and Summary Reports
Reporting Period 07/01/2018 to 12/31/2018
HollyFrontier Navajo Refining LLC - Artesia, NM Refinery
Agency Interest No. 198

HollyFrontier Navajo Refining LLC (Navajo) is submitting this semi-annual report for the Artesia, NM Refinery pursuant to the requirements of 40 CFR 60.7 (c), in NSPS Subpart A. Per NMED request on 08/05/2016, the reports for applicable NSPS Db, J, and Ja affected sources are being submitted individually. This report covers the sources subject to NSPS Subpart Ja, and includes a Data Summary Report, a Monitoring System Downtime Report, and an Excess Emissions Report. The monitored source(s) are identified as:

Rule	Name	Pollutant Monitored	NSR Permit Source ID or Navajo Equipment Number	Process Unit Number	TAG
NSPS Ja	Boiler 9	NOx	B-9	38	38AI001.PV
NSPS Ja	ROSE2 Hot Oil Heater (H-2501)	NOx	H-2501	25	25AI0469C.DACA.PV
NSPS Ja	High Pressure Refinery Fuel Gas	H ₂ S	D-0770	7	07AI001.PV
NSPS Ja	Low Pressure Refinery Fuel Gas	H ₂ S	D-0019	7	07AI002.PV
NSPS Ja	SRU3 Tail Gas Incinerator	SO ₂	SRU3-TGI	31	31AI426C.DACA.PV 31AI425C.DACA.PV
NSPS Ja	Hydrocracker Reboiler	O ₂ for NOx	H-3402	34	34AI0242.DACA.PV
NSPS Ja	Unit 64 Hydrogen Plant Reformer	NOx	H-9851	64	64AY0106B.DACA.PV
NSPS Ja	North Plant Flare	H ₂ S	FL-400	55	55AI400A1.PV

Rule	Name	Pollutant Monitored	NSR Permit Source ID or Navajo Equipment Number	Process Unit Number	TAG
NSPS Ja	North Plant Flare	TRS	FL-400	55	55AI400B1.PV
NSPS Ja	North Plant Flare	Flowrate	FL-400	55	55FQI400A.PV
NSPS Ja	South Plant Flare	H ₂ S	FL-401	55	55AI401A1.PV
NSPS Ja	South Plant Flare	TRS	FL-401	55	55AI401B1.PV
NSPS Ja	South Plant Flare	Flowrate	FL-401	55	55FQI401A.PV
NSPS Ja	FCC Flare	H ₂ S	FL-402	55	55AI402A1.PV
NSPS Ja	FCC Flare	TRS	FL-402	55	55AI402B1.PV
NSPS Ja	FCC Flare	Flowrate	FL-402	55	55FQI402A.PV
NSPS Ja	Alky Flare	Flowrate	FL-403	55	55FQI403A.PV
NSPS Ja	GOH Flare	H ₂ S	FL-404	55	55AI404A1.PV
NSPS Ja	GOH Flare	TRS	FL-404	55	55AI404B1.PV
NSPS Ja	GOH Flare	Flowrate	FL-404	55	55FQI404A.PV

Please note that 60.103a(h) exempts startup, shutdown, malfunction, and process upset gases, along with relief valve leakage, from the requirement to meet the 162 ppm (H₂S) limit. In this report we have included information on these events we believe are subject to this provision and exemption, and have identified them as such.

An Alternative Monitoring Plan (AMP) pursuant to 40 CFR §60.13(i)(6) was submitted on November 24th, 2015 to the Environmental Protection Agency (EPA) requesting authorization to perform the required daily two-point CD validation and the two-point quarterly accuracy audits for the low measurement range of each SOLA II in order to validate the high measurement range performance of the instrument as an alternative to the quality assurance procedures described in §60.107a(e)(1)(iii).

An (AMP) pursuant to 40 CFR Part 60.13(i) for all New Source Performance Standards (NSPS) was submitted on June 21, 2013 to the Environmental Protection Agency (EPA) to cover the operation of Unit 34 Hydrocracker Reboiler 1 (H-3402), which primarily uses purchased natural gas. Navajo reports instances of burning refinery fuel gas in the attached report sheets.

The FCC Flare (FL-402) and the North Plant Flare (FL-400) were previously part of an interconnected network of flare headers, although they did not operate as interconnected flares. The Flare Management Plan (FMP) submitted on November 11, 2015 established the combined flow baseline for FL-400 (North Plant) and FL-402 (FCC) flares as 1,077,961. As of July 2017, the physical connection between the flares headers was removed, and separate flow baselines were established for each flare. The July 2017 FMP update establishes a new flow baseline of 162,000 SCF in any 24-hour period for FL-402 (FCC), and a new flow baseline of 624,000 SCF in any 24-hour period for FL-400 (NP). Per 40 CFR §60.103a(c)(1)(ii), the threshold for a Root

NSPS Subpart Ja

January 30, 2019

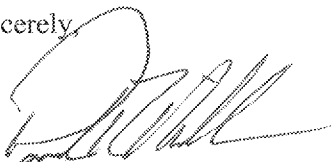
Cause Analysis and corrective action plan is 662,000 SCF in any 24-hour period for the FCC Flare, and 1,124,000 SCF in a 24-hour period for the NP Flare.

The FMP submitted on November 11, 2015 established the baseline flow for the GOH Flare (FL-404) to be 3,504,000 standard cubic feet per day (SCFD; where a day is any 24-hour period). Per 40 CFR §60.103a(c)(1)(ii), the threshold for an RCA and corrective action plan is 4,004,000 SCF in any 24-hour period. The June 2017 Flare Management Plan update included an alternative flow baseline of 8,500,000 SCF in any 24-hour period for excess hydrogen flaring during outages of the hydrogen units (Unit 63 and 64), or hydrogen consumers. The threshold for a Root Cause Analysis and corrective action plan is 9,000,000 SCF in any 24-hour period.

In accordance with 40 CFR 60.7(d), I certify based upon reasonable inquiry that the information contained in these reports is true, accurate and as complete as practicable.

Please contact Scott Denton (Environmental Manager) by phone at (575) 746-5487, by email at Scott.Denton@HollyFrontier.com, or at the address below if you have any questions about this submittal.

Sincerely,



Parrish Miller
Vice President & Refinery Manager
HollyFrontier Navajo Refining LLC

Enclosure

Electronic cc (w/enc): P. Miller, B. Romine, S. Denton, G. Combs

Environmental File: Env\2.0 Air Quality\2.1 Original Agency Correspondence\2019



**New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375**



Version 05.02.13

NMED USE ONLY	
TEMPO	

REPORTING SUBMITTAL FORM

NMED USE ONLY	
Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION									
A. ® Company Name: HollyFrontier Navajo Refining LLC					D. ® Facility Name: HollyFrontier Navajo Refining LLC				
B.1 ® Company Address: PO Box 159					E.1 ® Facility Address: 501 E. Main St.				
B.2 ® City: Artesia		B.3 ® State: NM	B.4 ® Zip: 88211-0159 ^L		E.2 ® City: Artesia		E.3 ® State: NM	E.4 ® Zip: 88210	
C.1 ® Company Environmental Contact: Scott M. Denton			C.2 ® Title: Environmental Manager		F.1 ® Facility Contact: Scott M. Denton			F.2 ® Title: Environmental Manager	
C.3 ® Phone Number: 575-746-5487			C.4 ® Fax Number: 575-746-5451		F.3 ® Phone Number: 575-746-5487			F.4 ® Fax Number: 575-746-5451	
C.5 ® Email Address: scott.denton@hollyfrontier.com					F.5 ® Email Address: scott.denton@hollyfrontier.com				
G. Responsible Official: (Title V only): Parrish Miller			H. Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC		I. Phone Number: 575-748-3311			J. Fax Number: 575-746-5451	
K. ® AI Number: 198		L. Title V Permit Number: P051-R2		M. Title V Permit Issue Date: 05/06/2015		N. NSR Permit Number: 0195-M37		O. NSR Permit Issue Date: 08/12/2016	
P. Reporting Period: From: 07/01/2018 To: 12/31/2018									

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A. ☐	Title V Annual Compliance Certification	Permit Condition(s):	Description:	
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C. ☒	NSPS Requirement (40CFR60)	Regulation: NSPS Subpart Ja	Section(s): 40 CFR 60.100a, 101a, 102a, 103a, 107a, 108a	Description: NSPS Subpart Ja Excess Emissions Report
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ : or NOI No. ☐ :	Condition(s):	Description:
G. ☐	Requirement of an Enforcement Action	NOV No. ☐ : or SFO No. ☐ : or CD No. ☐ : or Other ☐ :	Section(s):	Description:

SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Parrish Miller</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: 		® Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	® Date: 01/30/2019
		® Responsible Official for Title V? ☒ Yes ☐ No	

Reviewed By: _____

Date Reviewed: _____

HFNA-000003139

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja
Boiler B-0009 NO_x

Boiler B-0009 burns a mixture of purchased natural gas and refinery fuel gas.

§60.100a Applicability, designation of affected facility, and reconstruction.

(a) The provisions of this subpart apply to the following affected facilities in petroleum refineries: fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, fuel gas combustion devices (including process heaters), flares and sulfur recovery plants. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(b) Except for flares and delayed coking units, the provisions of this subpart apply only to affected facilities under paragraph (a) of this section which commence construction, modification or reconstruction after May 14, 2007.

§60.101a Definitions.

Terms used in this subpart are defined in the Clean Air Act (CAA), in §60.2 and in this section.

Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators, coke calciners (used to make premium grade coke) and fluid coking burners, but does include gases from flexicoking unit gasifiers and other gasifiers. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units other than those processing sour water, marine tank vessel loading operations or asphalt processing units (i.e., asphalt blowing stills).

Fuel gas combustion device means any equipment, such as process heaters and boilers, used to combust fuel gas. For the purposes of this subpart, fuel gas combustion device does not include flares or facilities in which gases are combusted to produce sulfur or sulfuric acid.

Boiler B-0009 was constructed after May 14, 2007 and is a fuel gas combustion device. Therefore, B-0009 is subject to NSPS Subpart Ja.

§60.102a Emissions limitations.

§60.102a(g) Each owner or operator of an affected fuel gas combustion device shall comply with the emissions limits in paragraphs (g)(1) and (2) of this section.

§60.102a(g)(2) For each process heater with a rated capacity of greater than 40 million British thermal units per hour (MMBtu/hr) on a higher heating value basis, the owner or operator shall not discharge to the atmosphere any emissions of NO_x in excess of the applicable limits in paragraphs (g)(2)(i) through (iv) of this section.

§60.102a(g)(2)(i) For each natural draft process heater, comply with the limit in either paragraph (g)(2)(i)(A) or (B) of this section. The owner or operator may comply with either limit at any time, provided that the appropriate parameters for each alternative are monitored as specified in §60.107a; if fuel gas composition is not monitored as specified in §60.107a(d), the owner or operator must comply with the concentration limits in paragraph (g)(2)(i)(A) of this section.

§60.102a(g)(2)(i)(A) 40 ppmv (dry basis, corrected to 0-percent excess air) determined daily on a 30-day rolling average basis; or

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

§60.107a(c) Process heaters complying with the NO_x concentration-based limit. The owner or operator of a process heater subject to the NO_x emissions limit in §60.102a(g)(2) and electing to comply with the applicable emissions limit in §60.102a(g)(2)(i)(A), (g)(2)(ii)(A), (g)(2)(iii)(A) or (g)(2)(iv)(A) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration (dry basis, 0-percent excess air) of NO_x emissions into the atmosphere according to the requirements in paragraphs (c)(1) through (5) of this section, except as provided in paragraph (c)(6) of this section. The monitor must include an O₂ monitor for correcting the data for excess air.

The NO_x CEMS on Boiler B-0009 records concentrations in parts per million by volume on a dry basis (ppmvd). The NO_x concentrations are corrected to 0-percent excess air using the oxygen monitor concentrations.

§60.108a(d)

Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

- (1) The date that the exceedance occurred;**
- (2) An explanation of the exceedance;**
- (3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and**
- (4) A description of the action taken, if any.**
- (5) The information described in paragraph (c)(6) of this section for all discharges listed in paragraph (c)(6) of this section. For a flare complying with the monitoring alternative under §60.107a(g), following the fifth discharge required to be recorded under paragraph (c)(6) of this section and reported under this paragraph, the owner or operator shall include notification that monitoring systems will be installed according to §60.107a(e) and (f) within 180 days following the fifth discharge.**
- (6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.**
- (7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.**

With this report, Navajo is submitting all periods of excess emissions according to the requirements of §60.7(c) and §60.108a(d)(1)-(7).

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report Boiler B-0009

B-0009 NOx CEMS Summary

Affected Source	B-0009
Emission Limit Citation	40 CFR 60.102a(g)(2)(i)
Emission Limitation (NOx ppmv)	40

Monitor Manufacturer and Model No.	California Analytical, 600-CLD Digital
Monitor Serial Number	A10011
Initial Compliance Test Scheduled	03/07/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime (Fuel gas flow to B-0009 less than zero)	(hours)	1
Total Source Operating Time in Reporting Period	(hours)	4415

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	1	2.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	184	0.00
Other Known Causes	2	2.00
Unknown Causes	0	0.00
Totals	187	4.00
Total CMS Downtime as a Percent of Total Source Operating Time		0.09%

Emission Data Summary (Exceeds 30-Day rolling average of 0.2 lb NOx/MMBtu)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0
Shutdown	0	0
Control Equipment Problems	0	0
Process Problems	0	0
Other Known Causes	0	0
Unknown Causes	0	0
Totals	0	0
Total Duration of Deviations as a Percent of Total Source Operating Time		0.00%

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report Boiler B-0009

B-0009 NOx CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken
B-0009	CEMS	NOx	08/14/2018 13:30	08/14/2018 15:05	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.
B-0009	CEMS	NOx	08/30/2018 08:20	08/30/2018 11:20	2.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a sample chiller malfunction.	The I&E technician replaced the chiller and returned the analyzer to service.
B-0009	CEMS	NOx	12/05/2018 14:00	12/05/2018 15:10	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.
Total					4.00				

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report Boiler B-0009

B-0009 CEMS Excess Emissions Ja

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
B-0009	CEMS	NOx	NA	NA	NA	NA	NA	No deviations - Boiler B-0009 did not record any deviations above the NSPS Ja 30-Day rolling average of 40 ppmv at 0% O ₂ limit.	NA
					Total	0:00			

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Artesia, NM Refinery

NSPS Subpart Ja
Heater H-2501 NO_x

Heater H-2501 burns a mixture of purchased natural gas and refinery fuel gas.

§60.100a Applicability, designation of affected facility, and reconstruction.

(a) The provisions of this subpart apply to the following affected facilities in petroleum refineries: fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, fuel gas combustion devices (including process heaters), flares and sulfur recovery plants. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(b) Except for flares and delayed coking units, the provisions of this subpart apply only to affected facilities under paragraph (a) of this section which commence construction, modification or reconstruction after May 14, 2007.

§60.101a Definitions.

Terms used in this subpart are defined in the Clean Air Act (CAA), in §60.2 and in this section.

Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators, coke calciners (used to make premium grade coke) and fluid coking burners, but does include gases from flexicoking unit gasifiers and other gasifiers. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units other than those processing sour water, marine tank vessel loading operations or asphalt processing units (i.e., asphalt blowing stills).

Fuel gas combustion device means any equipment, such as process heaters and boilers, used to combust fuel gas. For the purposes of this subpart, fuel gas combustion device does not include flares or facilities in which gases are combusted to produce sulfur or sulfuric acid.

Heater H-2501 was constructed after May 14, 2007 and is a fuel gas combustion device. Therefore, H-2501 is subject to NSPS Subpart Ja.

§60.102a Emissions limitations.

§60.102a(g) Each owner or operator of an affected fuel gas combustion device shall comply with the emissions limits in paragraphs (g)(1) and (2) of this section.

§60.102a(g)(2) For each process heater with a rated capacity of greater than 40 million British thermal units per hour (MMBtu/hr) on a higher heating value basis, the owner or operator shall not discharge to the atmosphere any emissions of NO_x in excess of the applicable limits in paragraphs (g)(2)(i) through (iv) of this section.

§60.102a(g)(2)(i) For each natural draft process heater, comply with the limit in either paragraph (g)(2)(i)(A) or (B) of this section. The owner or operator may comply with either limit at any time, provided that the appropriate parameters for each alternative are monitored as specified in §60.107a; if fuel gas composition is not monitored as specified in §60.107a(d), the owner or operator must comply with the concentration limits in paragraph (g)(2)(i)(A) of this section.

§60.102a(g)(2)(i)(A) 40 ppmv (dry basis, corrected to 0-percent excess air) determined daily on a 30-day rolling average basis; or

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Artesia, NM Refinery

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

§60.107a(c) Process heaters complying with the NO_x concentration-based limit. The owner or operator of a process heater subject to the NO_x emissions limit in §60.102a(g)(2) and electing to comply with the applicable emissions limit in §60.102a(g)(2)(i)(A), (g)(2)(ii)(A), (g)(2)(iii)(A) or (g)(2)(iv)(A) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration (dry basis, 0-percent excess air) of NO_x emissions into the atmosphere according to the requirements in paragraphs (c)(1) through (5) of this section, except as provided in paragraph (c)(6) of this section. The monitor must include an O₂ monitor for correcting the data for excess air.

The NO_x CEMS on Heater H-2501 records concentrations in parts per million by volume on a dry basis (ppmvd). The NO_x concentrations are corrected to 0-percent excess air using the oxygen monitor concentrations.

§60.108a(d)

Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

- (1) The date that the exceedance occurred;**
- (2) An explanation of the exceedance;**
- (3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and**
- (4) A description of the action taken, if any.**
- (5) The information described in paragraph (c)(6) of this section for all discharges listed in paragraph (c)(6) of this section. For a flare complying with the monitoring alternative under §60.107a(g), following the fifth discharge required to be recorded under paragraph (c)(6) of this section and reported under this paragraph, the owner or operator shall include notification that monitoring systems will be installed according to §60.107a(e) and (f) within 180 days following the fifth discharge.**
- (6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.**
- (7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.**

With this report, Navajo is submitting all periods of excess emissions according to the requirements of §60.7(c) and §60.108a(d)(1)-(7).

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report Heater H-2501

H-2501 NOx CEMS Summary

Affected Source	H-2501
Emission Limit Citation	40 CFR 60.102a(g)(2)(i)
Emission Limitation (NOx ppmv)	40
Monitor Manufacturer and Model No.	Thermo Scientific 48i-ANPCB
Monitor Serial Number	809828981
Date of Latest CMS Certification or Audit	01/10/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime (Fuel gas flow to H-2501 less than zero)	(hours)	173
Total Source Operating Time in Reporting Period	(hours)	4243

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	0	0.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	177	0.00
Other Known Causes	1	2.00
Unknown Causes	0	0.00
Totals	178	2.00
Total CMS Downtime as a Percent of Total Source Operating Time		0.05%

Emission Data Summary (Exceeds 30-Day rolling average of 40 ppmv NOx limit.)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0
Shutdown	0	0
Control Equipment Problems	0	0
Process Problems	0	0
Other Known Causes	0	0
Unknown Causes	0	0
Totals	0	0
Total Duration of Deviations as a Percent of Total Source Operating Time		0.00%

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report Heater H-2501

H-2501 NOx CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken
H-2501	CEMS	NOx	08/20/2018 09:57	08/20/2018 11:47	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The E&I technician performed the CGA and returned the analyzer to service.
Total					2.00				

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Artesia Refinery

NSPS Subpart Ja
Periodic Report Heater H-2501

H-2501 CEMS Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
H-2501	CEMS	NOx	NA	NA	NA	NA	NA	No deviations - Heater H-2501 did not record any deviations above the NSPS Ja 30-Day rolling average of 40 ppmv limit.	NA

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NSPS Subpart Ja
High Pressure Refinery Fuel Gas Drum D-0770

According to

§60.102a Emissions limitations.

(g) Each owner or operator of an affected fuel gas combustion device shall comply with the emission limits in paragraphs (g)(1) through (3) of this section.

(1) For each fuel gas combustion device, the owner or operator shall comply with either the emission limit in paragraph (g)(1)(i) of this section or the fuel gas concentration limit in paragraph (g)(1)(ii) of this section.

(ii) The owner or operator shall not burn in any fuel gas combustion device any fuel gas that contains H₂S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis and H₂S in excess of 60 ppmv determined daily on a 365 successive calendar day rolling average basis.

And

§60.107a Monitoring of emissions and operations for fuel gas combustion devices.

(f) Excess emissions. For the purpose of reports required by §60.7(c), periods of excess emissions for fuel gas combustion devices subject to the emissions limitations in §60.102a(g) are defined as specified in paragraphs (f)(1) through (4) of this section. Note: Determine all averages as the arithmetic average of the applicable 1-hour averages, e.g., determine the rolling 3-hour average as the arithmetic average of three contiguous 1-hour averages.

(2) All rolling 3-hour periods during which the average concentration of H₂S as measured by the H₂S continuous monitoring system required under paragraph (a)(2) of this section exceeds 162 ppmv, all days in which the concentration of H₂S as measured by daily stain tube sampling required under paragraph (b)(3)(iii) of this section exceeds 162 ppmv, and all rolling 365-day periods during which the average concentration as measured by the H₂S continuous monitoring system under paragraph (a)(2) of this section exceeds 60 ppmv.

§60.108a(d)

Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

- (1) The date that the exceedance occurred;**
- (2) An explanation of the exceedance;**
- (3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and**
- (4) A description of the action taken, if any.**
- (5) The information described in paragraph (c)(6) of this section for all discharges listed in paragraph (c)(6) of this section. For a flare complying with the monitoring alternative under §60.107a(g), following the fifth discharge required to be recorded under paragraph (c)(6) of this section and reported under this paragraph, the owner or operator shall include notification that monitoring systems will be installed according to §60.107a(e) and (f) within 180 days following the fifth discharge.**
- (6) For any periods for which monitoring data are not available, any changes**

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made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

With this report, Navajo is submitting all periods of excess emissions according to the requirements of §60.7(c) and §60.108a(d)(1)-(7).

Affected Source	High Pressure Fuel Balance Drum D-0770
Emission Limit Citation	40 CFR 60.102a(g)(1)(ii)
Emission Limitation (ppmv H ₂ S)	162

Monitor Manufacturer and Model No.	SpectraSensor SS2100
Monitor Serial Number	11002
Date of Latest CMS Certification or Audit	02/15/2018
Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	1	28.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	1	13.00
Quality Assurance/Quality Control Calibrations	184	0.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
Totals	186	41.00
Total CMS Downtime as a Percent of Total Source Operating Time		0.93%

Emission Data Summary (Exceeds 3-hour rolling average of 162 ppmv H ₂ S)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0
Shutdown	0	0
Control Equipment Problems	0	0
Process Problems	3	15
Other Known Causes	1	4
Other Unknown Causes	1	3
Totals	5	22
Total Duration of Deviations as a Percent of Total Source Operating Time		0.50%

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report D-0770

D-0770 CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken
D-0770	CEMS	H ₂ S	07/09/2018 06:12	07/10/2018 09:23	28.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to failed calibration.	The I&E technician validated the calibration and returned the analyzer to service.
D-0770	CEMS	H ₂ S	09/24/2018 05:00	09/24/2018 18:00	13.00	Non-Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a power failure which caused the calibration not to occur on time.	The I&E technician reset controller, recalibrated, and returned the analyzer to service.
Total					41.00				

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report for D-0770

D-0770 Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
D-770	CEMS	H ₂ S	07/19/2018 15:00	07/19/2018 17:00	2.00	Malfunction	Process Problems	The Amine Unit High Pressure Contactor became saturated with H ₂ S, causing the concentration of this gas in the Fuel Gas System (FGS) to exceed the reportable limit.	Amine flow to the contactor was increased and the overhead temperature was reduced to increase the H ₂ S scrubbing efficiency.
D-770	CEMS	H ₂ S	08/26/2018 14:00	08/26/2018 17:00	3.00	Malfunction	Other Unknown Cause	High concentration of H ₂ S in the FGS reduced the Amine Unit High Pressure Contactor H ₂ S scrubbing efficiency. Upon investigation, no known cause could be determined.	No adjustments were made. The H ₂ S concentration in the fuel gas system decreased enough to allow the 3-hour rolling average to drop under 162 ppmvd.
D-770	CEMS	H ₂ S	09/23/2018 21:00	09/24/2018 01:00	4.00	Other	Other Known Cause	The electrical power supply from a third party substation to the Artesia Refinery was interrupted for approximately 3 hours, resulting in the shutdown of several process units, as well as several pumps, compressors and other electric pieces of equipment within the refinery, followed by the increase of the FGS H ₂ S concentration above the reportable limit.	After the electrical power was restored, the amine scrubbing system returned to service and began removing H ₂ S from the fuel gas system.
D-0770	CEMS	H ₂ S	10/01/2018 12:00	10/01/2018 21:00	9.00	Malfunction	Process Problems	Due to the increase in temperatures in the Mild Hydrocracker Unit (MHC) and Fluid Catalytic Cracking (FCC, Unit 10), increased off-gas productions from these units rapidly increased the H ₂ S concentration in the FGS above the regulatory limit.	MHC and FCC process temperatures were adjusted, to help reduce the acid gas production and the H ₂ S concentration in the off gas treated in the amine units. New amine solution was introduced in the amine unit system to help increase the removal rate of H ₂ S in the FGS.
D-0770	CEMS	H ₂ S	12/07/2018 21:00	12/08/2018 01:00	4.00	Malfunction	Process Problems	The H ₂ S concentration in the FGS increased following an unexpected shutdown of the Sulfur Recovery Unit No.2 (SRU2).	Operations added H ₂ S scavenger to the the system to help reduce the concentration of this gas below the regulatory limit.
					Total	22.00			

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja
Low Pressure Refinery Fuel Gas Drum D-0019

According to

§60.102a Emissions limitations.

(g) Each owner or operator of an affected fuel gas combustion device shall comply with the emission limits in paragraphs (g)(1) through (3) of this section.

(1) For each fuel gas combustion device, the owner or operator shall comply with either the emission limit in paragraph (g)(1)(i) of this section or the fuel gas concentration limit in paragraph (g)(1)(ii) of this section.

(ii) The owner or operator shall not burn in any fuel gas combustion device any fuel gas that contains H₂S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis and H₂S in excess of 60 ppmv determined daily on a 365 successive calendar day rolling average basis.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices.

(f) Excess emissions. For the purpose of reports required by §60.7(c), periods of excess emissions for fuel gas combustion devices subject to the emissions limitations in §60.102a(g) are defined as specified in paragraphs (f)(1) through (4) of this section. Note: Determine all averages as the arithmetic average of the applicable 1-hour averages, e.g., determine the rolling 3-hour average as the arithmetic average of three contiguous 1-hour averages.

(2) All rolling 3-hour periods during which the average concentration of H₂S as measured by the H₂S continuous monitoring system required under paragraph (a)(2) of this section exceeds 162 ppmv, all days in which the concentration of H₂S as measured by daily stain tube sampling required under paragraph (b)(3)(iii) of this section exceeds 162 ppmv, and all rolling 365-day periods during which the average concentration as measured by the H₂S continuous monitoring system under paragraph (a)(2) of this section exceeds 60 ppmv.

§60.108a(d)

Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

- (1) The date that the exceedance occurred;**
- (2) An explanation of the exceedance;**
- (3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and**
- (4) A description of the action taken, if any.**
- (5) The information described in paragraph (c)(6) of this section for all discharges listed in paragraph (c)(6) of this section. For a flare complying with the monitoring alternative under §60.107a(g), following the fifth discharge required to be recorded under paragraph (c)(6) of this section and reported under this paragraph, the owner or operator shall include notification that monitoring systems will be installed according to §60.107a(e) and (f) within 180 days following the fifth discharge.**

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Artesia, NM Refinery

(6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

With this report, Navajo is submitting all periods of excess emissions according to the requirements of §60.7(c) and §60.108a(d)(1)-(7).

Affected Source	Low Pressure Fuel Balance Drum D-0019
Emission Limit Citation	40 CFR 60.102a (g)(1)(ii)
Emission Limitation (ppmv H ₂ S)	162
Monitor Manufacturer and Model No.	SpectraSensor SS2100
Monitor Serial Number	11003
Date of Latest CMS Certification or Audit	03/06/2018
Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	0	0.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	184	0.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
Totals	184	0.00
Total CMS Downtime as a Percent of Total Source Operating Time		0.00%
Emission Data Summary (Exceeds 3-hour rolling average of 162 ppmv H ₂ S)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0
Shutdown	0	0
Control Equipment Problems	0	0
Process Problems	3	12
Other Known Causes	1	5
Other Unknown Causes	0	0
Totals	4	17
Total Duration of Deviations as a Percent of Total Source Operating Time		0.38%

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report D-0019

D-0019 CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken
D-0019	CEMS	H ₂ S	NA	NA	NA	NA		No Downtime - There was no downtime recorded for this CEMS during this reporting period.	NA
				Total	0.00				

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report D-0019

D-0019 Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
D-0019	CEMS	H ₂ S	09/23/2018 21:00	09/24/2018 02:00	5.00	Other	Other Known Cause	The electrical power supply from a third party substation to the Artesia Refinery was interrupted for approximately 3 hours, resulting in the shutdown of several process units, as well as several pumps, compressors and other electric pieces of equipment within the refinery, followed by the increase of the FGS H ₂ S concentration above the reportable limit.	After the electrical power was restored, the amine scrubbing system returned to service and began removing H ₂ S from the fuel gas system.
D-0019	CEMS	H ₂ S	12/07/2018 21:00	12/08/2018 01:00	4.00	Malfunction	Process Problems	The H ₂ S concentration in the FGS increased following an unexpected shutdown of the Sulfur Recovery Unit No.2 (SRU2).	Operations added H ₂ S scavenger to the system to help reduce the concentration of this gas below the regulatory limit.
D-0019	CEMS	H ₂ S	12/15/2018 15:00	12/15/2018 20:00	5.00	Malfunction	Process Problems	The H ₂ S concentration in the FGS increased following an unexpected shutdown of SRU2. The FGS scrubbing system was contaminated and was not properly removing H ₂ S.	Operations made adjustments and restarted SRU2. Operators waited for the 3 hour averages to drop below permitted limits.
D-0019	CEMS	H ₂ S	12/31/2018 11:00	12/31/2018 14:00	3.00	Malfunction	Process Problems	The H ₂ S concentration in the FGS increased following an unexpected shutdown of SRU2. The FGS scrubbing system was contaminated and was not properly removing H ₂ S.	Operations made adjustments and restarted SRU2, and waited for the 3 hour averages to drop below permitted limits.
Total					17.00				

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja
SRU3 Tail Gas Incinerator

According to:

§ 60.102a Emissions limitations.

(f) Each owner or operator of an affected sulfur recovery plant shall comply with the applicable emission limits in paragraphs (f)(1) of this section.

(1) For a sulfur recovery plant with a capacity greater than 20 long tons per day (LTD):

(i) For a sulfur recovery plant with an oxidation control system or a reduction control system followed by incineration, the owner or operator shall not discharge or cause the discharge of any gases into the atmosphere in excess of 250 ppm by volume (dry basis) of sulfur dioxide (SO₂) at zero percent excess air. If the sulfur recovery plant consists of multiple process trains or release points the owner or operator shall comply with the 250 ppmv limit for each process train or release point or comply with a flow rate weighted average of 250 ppmv for all release points from the sulfur recovery plant

And

§ 60.106a Monitoring of emissions and operations for sulfur recovery plants.

(b) *Excess emissions.* For the purpose of reports required by §60.7(c), periods of excess emissions for sulfur recovery plants subject to the emissions limitations in §60.102a(f) are defined as specified in paragraphs (b)(1) through (3) of this section. Note: Determine all averages as the arithmetic average of the applicable 1-hour averages, e.g., determine the rolling 12-hour average as the arithmetic average of 12 contiguous 1-hour averages.

(1) All 12-hour periods during which the average concentration of SO₂ as measured by the SO₂ continuous monitoring system required under paragraph (a)(1) of this section exceeds the applicable emission limit (dry basis, zero percent excess air);

SRU3 is a 3-stage Claus Sulfur Recovery Units, followed by a reduction control system (the Tail Gas Treating Unit), and Incineration. Therefore, the SRU3 Tail Gas Incineration stack has a continuous emissions monitoring system (CEMS) for continuously monitoring and recording the concentration (dry basis, zero percent excess air) of SO₂ emissions into the atmosphere. The monitor shall include an oxygen monitor for correcting the data for excess air.

Therefore, any deviations are based on 12-hour rolling averages where the SO₂ concentration exceeds 250 ppmvd corrected to 0% oxygen.

§60.108a(d)

Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

- (1) The date that the exceedance occurred;**
- (2) An explanation of the exceedance;**
- (3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and**
- (4) A description of the action taken, if any.**

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

(5) The information described in paragraph (c)(6) of this section for all discharges listed in paragraph (c)(6) of this section. For a flare complying with the monitoring alternative under §60.107a(g), following the fifth discharge required to be recorded under paragraph (c)(6) of this section and reported under this paragraph, the owner or operator shall include notification that monitoring systems will be installed according to §60.107a(e) and (f) within 180 days following the fifth discharge.

(6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

With this report, Navajo is submitting all periods of excess emissions according to the requirements of §60.7(c) and §60.108a(d)(1)-(7).

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report

SRU3 TGI SO₂ CEMS Summary

Affected Source	SRU3 TGI
Emission Limit Citation	40 CFR 60.104(a)(2)(i)
Emission Limitation (ppmv SO ₂)	250

Monitor Manufacturer and Model No.	California Analytical ZRE
Monitor Serial Number	A8K9291T
Date of Latest CMS Certification or Audit	03/21/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime (Time with no tail gas feed to the Incinerator, SRU3 down)	(hours)	4
Total Source Operating Time in Reporting Period	(hours)	4412

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	4	64.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	184	0.00
Other Known Causes	2	3.00
Other Unknown Causes	0	0.00
Totals	190	67.00
Total CMS Downtime as a Percent of Total Source Operating Time		1.52%

Emission Data Summary (Exceeds 250 ppmvd SO ₂ corrected to 0% O ₂ on a 12-hour rolling average)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0.0
Shutdown	0	0.0
Control Equipment Problems	0	0.0
Process Problems	0	0.0
Other Known Causes	0	0.0
Other Unknown Causes	0	0.0
Totals	0	0.0
Total Duration of Deviations as a Percent of Total Source Operating Time		0.00%

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report

SRU3 SO₂ CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken
SRU3	CEMS	SO ₂	08/13/2018 13:30	08/13/2018 15:10	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.
SRU3	CEMS	SO ₂	08/31/2018 13:50	08/31/2018 15:10	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to high vacuum in sample line.	The I&E technician steamed out the sample line and probe assembly to reduce the vacuum and returned the analyzer to service.
SRU3	CEMS	SO ₂	12/04/2018 13:05	12/04/2018 14:45	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.
SRU3	CEMS	SO ₂	12/17/2018 05:27	12/18/2018 14:20	34.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a failed calibration.	The I&E technician checked for leaks in the sample system but found none, recalibrated and returned the analyzer to service.
SRU3	CEMS	SO ₂	12/18/2018 14:20	12/19/2018 13:50	24.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a failed calibration.	The I&E technician found a damaged sample line below the probe box under the insulation, replaced the section of line, recalibrated and returned the analyzer to service.
SRU3	CEMS	SO ₂	12/24/2018 08:00	12/24/2018 13:00	5.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a sample system leak.	The I&E technician found the sample leak at the probe, repaired, and returned the analyzer to service.
					Total	67.00			

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic ReportSRU3 CEMS SO₂ Deviations

COMS or CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
SRU3	CEMS	SO ₂	NA	NA	NA	NA	NA	No deviations - SRU3 did not record any deviations above the 12-Hour rolling average of 250 ppmv SO ₂ limit (corrected to 0% O ₂) during this reporting period.	NA

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja
Heater H-3402 NO_x

Heater H-3402 burns primarily purchased natural gas. The purchased natural gas may be supplemented with refinery fuel gas during times of purchased natural gas curtailment.

§60.100a Applicability, designation of affected facility, and reconstruction.

(a) The provisions of this subpart apply to the following affected facilities in petroleum refineries: fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, fuel gas combustion devices (including process heaters), flares and sulfur recovery plants. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(b) Except for flares and delayed coking units, the provisions of this subpart apply only to affected facilities under paragraph (a) of this section which commence construction, modification or reconstruction after May 14, 2007.

§60.101a Definitions.

Terms used in this subpart are defined in the Clean Air Act (CAA), in §60.2 and in this section.

Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators, coke calciners (used to make premium grade coke) and fluid coking burners, but does include gases from flexicoking unit gasifiers and other gasifiers. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units other than those processing sour water, marine tank vessel loading operations or asphalt processing units (i.e., asphalt blowing stills).

Fuel gas combustion device means any equipment, such as process heaters and boilers, used to combust fuel gas. For the purposes of this subpart, fuel gas combustion device does not include flares or facilities in which gases are combusted to produce sulfur or sulfuric acid.

Heater H-3402 was constructed after May 14, 2007 and is a fuel gas combustion device. Therefore, H-3402 is subject to NSPS Subpart Ja.

§60.102a Emissions limitations.

§60.102a(g) Each owner or operator of an affected fuel gas combustion device shall comply with the emissions limits in paragraphs (g)(1) and (2) of this section.

§60.102a(g)(2) For each process heater with a rated capacity of greater than 40 million British thermal units per hour (MMBtu/hr) on a higher heating value basis, the owner or operator shall not discharge to the atmosphere any emissions of NO_x in excess of the applicable limits in paragraphs (g)(2)(i) through (iv) of this section.

§60.102a(g)(2)(i) For each natural draft process heater, comply with the limit in either paragraph (g)(2)(i)(A) or (B) of this section. The owner or operator may comply with either limit at any time, provided that the appropriate parameters for each alternative are monitored as specified in §60.107a; if fuel gas composition is not monitored as specified in §60.107a(d), the owner or operator must comply with the concentration limits in paragraph (g)(2)(i)(A) of this section.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

HollyFrontier Navajo Refining LLC
 Artesia, NM Refinery

§60.107a(c) Process heaters complying with the NO_x concentration-based limit. The owner or operator of a process heater subject to the NO_x emissions limit in §60.102a(g)(2) and electing to comply with the applicable emissions limit in §60.102a(g)(2)(i)(A), (g)(2)(ii)(A), (g)(2)(iii)(A) or (g)(2)(iv)(A) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration (dry basis, 0-percent excess air) of NO_x emissions into the atmosphere according to the requirements in paragraphs (c)(1) through (5) of this section, except as provided in paragraph (c)(6) of this section. The monitor must include an O₂ monitor for correcting the data for excess air.

§60.107a(c)(6) The owner or operator of a process heater that has a rated heating capacity of less than 100 MMBtu and is equipped with combustion modification-based technology to reduce NO_x emissions (i.e., low-NO_x burners, ultra-low-NO_x burners) may elect to comply with the monitoring requirements in paragraphs (c)(1) through (5) of this section or, alternatively, the owner or operator of such a process heater shall conduct biennial performance tests according to the requirements in §60.104a(i), establish a maximum excess O₂ operating limit or operating curve according to the requirements in §60.104a(i)(6) and comply with the O₂ monitoring requirements in paragraphs (c)(3) through (5) of this section to demonstrate compliance. If an O₂ operating curve is used (i.e., if different O₂ operating limits are established for different operating ranges), the owner or operator of the process heater must also monitor fuel gas flow rate, fuel oil flow rate (as applicable) and heating value content according to the methods provided in paragraphs (d)(5), (d)(6), and (d)(4) or (d)(7) of this section, respectively.

Heater H-3402 has a rated heating capacity of greater than 40 MMBtu and less than 100 MMBtu and is equipped with ultra-low-NO_x burners. Therefore, Navajo operates H-3402 according to the alternative monitoring requirements of:

- Biennial performance testing.
- Establishing a maximum excess O₂ operating limit.
- Operating an O₂ monitor according to the requirements in paragraphs 60.107a(c)(3) through (5).

The O₂ operating limit only applies during periods when Fuel Gas is burned in H-3402.

§60.108a(d)

Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

- (1) The date that the exceedance occurred;
- (2) An explanation of the exceedance;
- (3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and
- (4) A description of the action taken, if any.
- (5) The information described in paragraph (c)(6) of this section for all discharges listed in paragraph (c)(6) of this section. For a flare complying with the monitoring alternative under §60.107a(g), following the fifth discharge required to be recorded under paragraph (c)(6) of this section and reported under this paragraph, the owner or operator shall include notification that monitoring systems will be installed according to §60.107a(e) and (f) within 180 days following the fifth discharge.
- (6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

(7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.

With this report, Navajo is submitting all periods of excess emissions according to the requirements of §60.7(c) and §60.108a(d)(1)-(7).

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report Heater H-3402

H-3402 O₂ Monitor Summary

Affected Source	Mild Hydrocracker Reboiler 1 Heater (H-3402)
Emission Limit Citation	40 CFR 60.107a(c)(6)
Emission Limitation (O ₂ AMP Emission Limit)	4.6

Monitor Manufacturer and Model No.	Servomex 2700
Monitor Serial Number	10276
Date of Latest CMS Certification or Audit	01/31/2018
Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018
CMS Performance Citation	60.7(d)(2)

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	157
Total Source Operating Time in Reporting Period	(hours)	4259

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	0	0.00
Non-Monitoring Equipment Malfunctions (eg., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	178	0.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
Totals	178	0.00
Total CMS Downtime as a Percent of Total Source Operating Time (60.7(d)(2))		0.00%

Emission Data Summary (Exceeds 30-Day rolling average of 0.2 lb NO _x /MMBtu) (Exceeds 3-hour rolling average of 4.6 % O ₂)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0.00
Shutdown	0	0.00
Control Equipment Problems	0	0.00
Process Problems	0	0.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
Totals	0	0.00
Total Duration of Deviations as a Percent of Total Source Operating Time (60.7(d)(2))		0.00%

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja
Periodic Report Heater H-3402

H-3402 O₂ Monitor Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken
H-3402	CEMS	NOx	NA	NA	NA	NA	NA	No Downtime - There was no downtime recorded for this CEMS during this reporting period.	NA
				Total	0.00				

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja
Periodic Report Heater H-3402

H-3402 O₂ Monitor Exceedences

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
H-3402	CEMS	O ₂	NA	NA	NA	NA	NA	No deviation - There were no deviations based on the AMP measured O ₂ % for the calculated 30-Day rolling average of 0.2 lb NOx/MMBtu.	NA

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja
Heater H-9851 NO_x

Heater H-9851 burns a mixture of purchased natural gas and refinery fuel gas.

§60.100a Applicability, designation of affected facility, and reconstruction.

(a) The provisions of this subpart apply to the following affected facilities in petroleum refineries: fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, fuel gas combustion devices (including process heaters), flares and sulfur recovery plants. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(b) Except for flares and delayed coking units, the provisions of this subpart apply only to affected facilities under paragraph (a) of this section which commence construction, modification or reconstruction after May 14, 2007.

§60.101a Definitions.

Terms used in this subpart are defined in the Clean Air Act (CAA), in §60.2 and in this section.

Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators, coke calciners (used to make premium grade coke) and fluid coking burners, but does include gases from flexicoking unit gasifiers and other gasifiers. Fuel gas does not include vapors that are collected and combusted in a thermal oxidizer or flare installed to control emissions from wastewater treatment units other than those processing sour water, marine tank vessel loading operations or asphalt processing units (i.e., asphalt blowing stills).

Fuel gas combustion device means any equipment, such as process heaters and boilers, used to combust fuel gas. For the purposes of this subpart, fuel gas combustion device does not include flares or facilities in which gases are combusted to produce sulfur or sulfuric acid.

Heater H-9851 was constructed after May 14, 2007 and is a fuel gas combustion device. Therefore, H-9851 is subject to NSPS Subpart Ja.

§60.102a Emissions limitations.

§60.102a(g) Each owner or operator of an affected fuel gas combustion device shall comply with the emissions limits in paragraphs (g)(1) and (2) of this section.

§60.102a(g)(2) For each process heater with a rated capacity of greater than 40 million British thermal units per hour (MMBtu/hr) on a higher heating value basis, the owner or operator shall not discharge to the atmosphere any emissions of NO_x in excess of the applicable limits in paragraphs (g)(2)(i) through (iv) of this section.

§60.102a(g)(2)(i) For each natural draft process heater, comply with the limit in either paragraph (g)(2)(i)(A) or (B) of this section. The owner or operator may comply with either limit at any time, provided that the appropriate parameters for each alternative are monitored as specified in §60.107a; if fuel gas composition is not monitored as specified in §60.107a(d), the owner or operator must comply with the concentration limits in paragraph (g)(2)(i)(A) of this section.

§60.102a(g)(2)(i)(A) 40 ppmv (dry basis, corrected to 0-percent excess air) determined daily on a 30-day rolling average basis; or

HollyFrontier Navajo Refining LLC
 Artesia, NM Refinery

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

§60.107a(c) Process heaters complying with the NO_x concentration-based limit. The owner or operator of a process heater subject to the NO_x emissions limit in §60.102a(g)(2) and electing to comply with the applicable emissions limit in §60.102a(g)(2)(i)(A), (g)(2)(ii)(A), (g)(2)(iii)(A) or (g)(2)(iv)(A) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration (dry basis, 0-percent excess air) of NO_x emissions into the atmosphere according to the requirements in paragraphs (c)(1) through (5) of this section, except as provided in paragraph (c)(6) of this section. The monitor must include an O₂ monitor for correcting the data for excess air.

The NO_x CEMS on Heater H-9851 records concentrations in parts per million by volume on a dry basis (ppmvd). The NO_x concentrations are corrected to 0-percent excess air using the oxygen monitor concentrations.

§60.108a(d)

Each owner or operator subject to this subpart shall submit an excess emissions report for all periods of excess emissions according to the requirements of §60.7(c) except that the report shall contain the information specified in paragraphs (d)(1) through (7) of this section.

- (1) The date that the exceedance occurred;**
- (2) An explanation of the exceedance;**
- (3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of an affected facility or control system; and**
- (4) A description of the action taken, if any.**
- (5) The information described in paragraph (c)(6) of this section for all discharges listed in paragraph (c)(6) of this section. For a flare complying with the monitoring alternative under §60.107a(g), following the fifth discharge required to be recorded under paragraph (c)(6) of this section and reported under this paragraph, the owner or operator shall include notification that monitoring systems will be installed according to §60.107a(e) and (f) within 180 days following the fifth discharge.**
- (6) For any periods for which monitoring data are not available, any changes made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.**
- (7) A written statement, signed by a responsible official, certifying the accuracy and completeness of the information contained in the report.**

With this report, Navajo is submitting all periods of excess emissions according to the requirements of §60.7(c) and §60.108a(d)(1)-(7).

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report Heater H-9851

H-9851 NOx CEMS Summary

Affected Source	H-9851
Emission Limit Citation	40 CFR 60.102a(g)(2)(i)
Emission Limitation (ppmv)	40
Monitor Manufacturer and Model No.	California Analytical 600 CLD
Monitor Serial Number	W01040
Date of Latest CMS Certification or Audit	03/20/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime (Fuel gas flow to H-9851 less than zero)	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	1	19.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	184	0.00
Other Known Causes	2	4.00
Other Unknown Causes	0	0.00
Totals	187	23.00
Total CMS Downtime as a Percent of Total Source Operating Time		0.52%

Emission Data Summary (Exceeds 30-Day NOx rolling average of 40 ppmv)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0
Shutdown	0	0
Control Equipment Problems	0	0
Process Problems	0	0
Other Known Causes	0	0
Other Unknown Causes	0	0
Totals	0	0
Total Duration of Deviations as a Percent of Total Source Operating Time		0.00%

HollyFrontier Navajo Refining LLC
 Artesia Refinery

NSPS Subpart Ja
 Periodic Report Heater H-9851

H-9851 NOx CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken
H-9851	CEMS	NOx	08/16/2018 13:15	08/16/2018 15:25	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The E&I technician performed the CGA and returned the analyzer to service.
H-9851	CEMS	NOx	11/15/2018 12:50	11/15/2018 14:57	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The E&I technician performed the CGA and returned the analyzer to service.
H-9851	CEMS	NOx	12/23/2018 16:55	12/24/2018 11:15	19.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to loss of air pressure in the sample system.	A broken connection at the pressure sensor was identified as the cause of the air pressure issue. The I&E technician repaired the connection, recalibrated and returned the analyzer to service.
Total					23.00				

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report Heater H-9851

H-9851 CEMS Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
H-9851	CEMS	NOx	NA	NA	0:00	NA	NA	No deviations - Heater H-9851 did not record any deviations above the 30-Day rolling average of 40 ppmv limit.	NA

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja
Artesia North Plant Flare, FL-0400

§60.100a Applicability, designation of affected facility, and reconstruction.

(b) For flares, the provisions of this subpart apply only to flares which commence construction, modification or reconstruction after June 24, 2008.

§60.101a Definitions.

Terms used in this subpart are defined in the Clean Air Act (CAA), in §60.2 and in this section.

***Emergency flare* means a flare that combusts gas exclusively released as a result of malfunctions (and not startup, shutdown, routine operations or any other cause) on four or fewer occasions in a rolling 365-day period. For purposes of this rule, a flare cannot be categorized as an emergency flare unless it maintains a water seal.**

***Non-emergency flare* means any flare that is not an emergency flare as defined in this subpart.**

Flare FL-400 is a Non-emergency flare. Modification or reconstruction occurred on Flare FL-400 after June 24, 2008. Therefore FL-400 is subject to NSPS Subpart Ja.

HollyFrontier Navajo Refining LLC
 Artesia, NM Refinery

NSPS Subpart Ja – 500 M SCF 24-hour rolling average
 Artesia North Plant Flare (FL-400)

§60.101a Definitions.

Flare. In the case of an interconnected flare gas header system, the flare includes each individual flare serviced by the interconnected flare gas header system and the interconnected flare gas header system.

§60.103a Design, equipment, work practice or operational standards

(a) Except as provided in paragraph (g) of this section, each owner or operator that operates a flare that is subject to this subpart shall develop and implement a written flare management plan no later than the date specified in paragraph (b) of this section. The flare management plan must include the information described in paragraphs (a)(1) through (7) of this section. compressor staging and a justification for why the maximum time period cannot be further reduced.

(4) An evaluation of the baseline flow to the flare. The baseline flow to the flare must be determined after implementing the minimization assessment in paragraph (a)(2) of this section. Baseline flows do not include pilot gas flow or purge gas flow (i.e., gas introduced after the flare's water seal) provided these gas flows remain reasonably constant (i.e., separate flow monitors for these streams are not required). Separate baseline flow rates may be established for different operating conditions provided that the management plan includes:

(c) Except as provided in paragraphs (f) and (g) of this section, each owner or operator that operates a flare subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) of this section.

(1) For a flare:

(ii) Any discharge to the flare in excess of 14,160 standard cubic meters (m3) (500,000 standard cubic feet (scf)) above the baseline, determined in paragraph (a)(4) of this section, in any 24-hour period.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(f) Flow monitoring for flares. Except as provided in paragraphs (f)(2) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall install, operate, calibrate and maintain, in accordance with the specifications in paragraph (f)(1) of this section, a CPMS to measure and record the flow rate of gas discharged to the flare.

(1) The owner or operator shall install, calibrate, operate and maintain each flow monitor according to the manufacturer's procedures and specifications and the following requirements.

(iv) At least quarterly, perform a visual inspection of all components of the monitor for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion if the flow monitor is not equipped with a redundant flow sensor.

(v) Recalibrate the flow monitor in accordance with the manufacturer's procedures and specifications biennially (every two years) or at the frequency specified by the manufacturer.

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

The FCC Flare (FL-402) and the North Plant Flare (FL-400) were previously part of an interconnected network of flare headers, although they did not operate as interconnected flares.

The Flare Management Plan (FMP) submitted on November 11, 2015 established the combined flow baseline for FL-400 (North Plant) and FL-402 (FCC) flares as 1,077,961. As of July 2017, the physical connection between the flares headers was removed, and separate flow baselines were established for each flare. The July 2017 FMP update establishes a new flow baseline of 162,000 SCF in any 24-hour period for FL-402 (FCC), and a new flow baseline of 624,000 SCF in any 24-hour period for FL-400 (NP). Per 40 CFR §60.103a(c)(1)(ii), the threshold for a Root Cause Analysis and corrective action plan is 662,000 SCF in any 24-hour period for the FCC Flare, and 1,124,000 SCF in a 24-hour period for the NP Flare.

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report North Plant Flare (FL-0400)

FL-400 500M SCF Summ

Affected Source	FL-400 North Flare
Emission Limit Citation	§60.107a(f)
Emission Limitation (SCF over baseline in rolling 24 hours)	500,000
Monitor Manufacturer and Model No.	General Electric - GF868-2-11
Monitor Serial Number	4431
Date of Latest CMS Certification or Audit	10/17/2017
Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	9	15.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	0	0.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
	9	15.00
Totals	9	15.00
Total CMS Downtime as a Percent of Total Source Operating Time		0.34%

Emission Data Summary (Exceeds 500,000 SCF over baseline in rolling 24 hours)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0.00
Shutdown	1	28.00
Control Equipment Problems	0	0.00
Process Problems	1	24.00
Other Known Causes	1	88.00
Other Unknown Causes	0	0.00
Totals	3	140.00
Total Duration of Deviations as a Percent of Total Source Operating Time		3.17%

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report North Plant Flare (FL-0400)

FL-400 Flowmeter Downtime

CMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-400	Flowmeter	SCF	08/14/2018 17:00	08/14/2018 18:00	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E Technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-400	Flowmeter	SCF	09/13/2018 11:45	09/13/2018 12:00	0.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E Technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-400	Flowmeter	SCF	09/14/2018 09:15	09/14/2018 11:30	2.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E Technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-400	Flowmeter	SCF	10/02/2018 13:30	10/02/2018 16:30	3.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E Technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-400	Flowmeter	SCF	10/30/2018 09:00	10/30/2018 10:00	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E Technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-400	Flowmeter	SCF	11/21/2018 13:45	11/21/2018 14:15	0.50	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E Technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-400	Flowmeter	SCF	11/27/2018 10:30	11/27/2018 15:30	5.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E Technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-400	Flowmeter	SCF	11/29/2018 09:15	11/29/2018 10:15	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E Technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-400	Flowmeter	SCF	12/12/2018 09:00	12/12/2018 09:45	0.75	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E Technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
Total					15.00					

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report North Plant Flare (FL-0400)

FL-400 500M SCF Deviations

CMS Deviations

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted	Discharges Per 60.108a(d)(5)
FL-400	Flowmeter	SCF	07/12/2018 15:00	07/13/2018 19:00	28.00	Y	Shutdown	The North Flare exceeded the flow baseline reporting threshold scfd while flaring. Sulfur Recovery Unit No. 3 was placed out of service to repair a small leak identified near the acid gas inlet nozzle to the SRU3 Thermal Reactor rear chamber. The acid gas normally treated in SRU3 was diverted for treatment to SRU2. Feed Flow rates in upstream units were reduced to reduce the production of acid gas, and the load on the operating SRU2 while SRU3 was out of service.	Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. Feed flow rates in upstream units were reduced to reduce the production of acid gas, and to minimize flaring.	See Attached Event Record: "#1-2018-08-28 FL-0400 NSPS Ja Flow RCA".
FL-400	Flowmeter	SCF	07/16/2018 18:00	07/17/2018 18:00	24.00	N	Process Problems	The excess flaring was caused by the fuel balance drum (D-0019) receiving excess sweet gas from various units throughout the facility.	Unit feed rates were reduced so that excess flaring was minimized.	See Attached Event Record: "#2-2018-08-28 FL-0400 NSPS Ja Flow RCA".
FL-400	Flowmeter	SCF	09/24/2018 03:00	09/27/2018 19:00	88.00	N	Other Known Cause	The electrical power supply from a third party substation to the Artesia Refinery was interrupted for approximately 3 hours, resulting in the shutdown of several process units, as well as several pumps, compressors and other electric pieces of equipment within the refinery. The flaring associated with the units' shutdown contributed to discharge to the flare in excess of the flow baseline reporting threshold.	The electrical supply was promptly shifted to four additional substations that provide the electrical power to other sections of the refinery, allowing the electrical power to be restored. The frequency of preventative maintenance activities performed by the third-party electrical substation was increased from semiannual to monthly basis.	See Attached Event Record: "#3-2018-10-05 FL-0400 NSPS Ja Flow RCA".
Total					140.00					

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja – 162 ppmvd H₂S 3-hour rolling average
Artesia North Plant Flare, FL-0400

§60.103a Design, equipment, work practice or operational standards

(h) Each owner or operator shall not burn in any affected flare any fuel gas that contains H₂S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis. The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limit.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) Fuel gas combustion devices subject to SO₂ or H₂S limit and flares subject to H₂S concentration requirements.

(2) The owner or operator of a fuel gas combustion device that elects to comply with the H₂S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H₂S concentration requirement in §60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H₂S in the fuel gases before being burned in any fuel gas combustion device or flare.

(3) The owner or operator of a fuel gas combustion device or flare is not required to comply with paragraph (a)(1) or (2) of this section for fuel gas streams that are exempt under §§60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content.

(e) Sulfur monitoring for assessing root cause analysis threshold for affected flares.

(2) H₂S monitoring requirements. The owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration of H₂S in gas discharged to the flare according to the requirements in paragraphs (e)(2)(i) through (iii) of this section and shall collect and analyze samples of the gas and calculate total sulfur concentrations as specified in paragraphs (e)(2)(iv) through (ix) of this section.

Flare FL-400 is subject to the 162 ppmv hydrogen sulfide (H₂S) limit. Therefore, Navajo maintains an H₂S CEMS on Flare FL-400 that records concentrations in parts per million by volume on a dry basis (ppmvd). Note: 60.103a(h) exempts startup, shutdown, malfunction, and process upset gases, along with relief valve leakage, from the requirement to meet the 162 ppm (H₂S) limit. In this report we have included information on these events subject to exemptions, and have identified them as such.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report North Plant Flare (FL-0400)

FL-400 H₂S CEMS Summary

Affected Source	FL-400 North Flare
Emission Limit Citation	§60.103a(h) §60.107a(e)(2)
Emission Limitation (H ₂ S ppmv on rolling 3-hours)	162

Monitor Manufacturer and Model No.	Siemens - Maxum II
Monitor Serial Number	30049702230300
Date of Latest CMS Certification or Audit	01/24/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	4	204.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	186	9.00
Other Known Causes	5	17.00
Other Unknown Causes	0	0.00
Totals	195	230.00
Total CMS Downtime as a Percent of Total Source Operating Time		5.21%

Emission Data Summary (Exceeds 162 H ₂ S ppmv on rolling 3-hours)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	1	0.00
Shutdown	2	0.00
Control Equipment Problems	0	0.00
Process Problems	75	19.00
Other Known Causes	5	0.00
Other Unknown Causes	0	0.00
Totals	83	19.00
Total Duration of Deviations as a Percent of Total Source Operating Time		0.43%

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report North Plant Flare (FL-0400)

FL-400 H₂S CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-400	CEMS	H ₂ S	10/04/2018 07:38	10/04/2018 10:09	2.00	Quality Assurance Calibration	Other	The analyzer was placed in maintenance mode to recalibrate.	The I&E technician recalibrated and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	H ₂ S	10/30/2018 08:30	10/30/2018 09:46	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode for routine maintenance.	The E&I technician changed out the Genie, the water carry over, and the probe filters and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	H ₂ S	11/20/2018 06:30	11/24/2018 17:48	108.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to failed calibrations.	The I&E technician replaced several valves, detectors, and the circa valve, with no success. Then the GC TCDi right side was replaced with no success. New parts were ordered, installed and recalibrated. The analyzer was returned to service when calibration was successfully completed.	No changes were made in operation of the emission control system.
FL-400	CEMS	H ₂ S	11/27/2018 09:00	11/27/2018 16:00	7.00	Other Known Cause	Other	The analyzer was placed in maintenance mode due to project tie-in.	The I&E technician proceeded with the RSR project tie-ins and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	H ₂ S	11/28/2018 13:00	11/28/2018 16:00	3.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a linearity test.	The I&E technician performed a linearity test and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	H ₂ S	11/29/2018 08:45	11/29/2018 10:00	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to replace the sample flowmeter to the GC.	The I&E technician replaced the flowmeter, recalibrated and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	H ₂ S	11/29/2018 10:00	11/29/2018 17:00	7.00	Quality Assurance Calibration	Other	The analyzer was placed in calibration mode to recalibrate.	The I&E technician recalibrated and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	H ₂ S	12/07/2018 09:10	12/07/2018 14:00	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E Technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	H ₂ S	12/11/2018 06:30	12/12/2018 11:40	30.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to failed calibration.	The I&E technician replaced the H ₂ S process stream circo valve in the SCS, recalibrated and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	H ₂ S	12/15/2018 06:30	12/16/2018 14:00	32.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a failed calibration.	The I&E technician was not able to identify the cause, but recalibrated, and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	H ₂ S	12/18/2018 06:30	12/19/2018 16:12	34.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a failed calibration.	The I&E technician performed maintenance on the analyzer, recalibrated and returned the analyzer to service.	No changes were made in operation of the emission control system.
Total					230.00					

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report North Plant Flare (FL-0400)FL-400 H₂S Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
FL-400	CEMS	H ₂ S	08/21/2018 06:00	08/21/2018 13:00	7.00	Y	Shutdown	It was discovered that the flare exceeded the NSPS Ja 162 ppm H ₂ S 3-hour rolling average limit. Equipment being purged to get them ready for maintenance.	Standard operating procedures were followed to minimize emissions from the flare during shut down of the units. Scavenger was injected to minimize SO ₂ emissions.
FL-400	CEMS	H ₂ S	08/27/2018 13:00	08/27/2018 16:00	3.00	Y	Shutdown	While purging equipment (C-0064, P-0043 and P-0235) to flare in preparation for maintenance, the NSPS Ja 162 ppm H ₂ S 3-hour rolling average was exceeded.	The standard operating procedures were followed to minimize emissions from the flare during shut down of the units. H ₂ S scavenger was injected to minimize SO ₂ emissions.
FL-400	CEMS	H ₂ S	09/12/2018 11:00	09/12/2018 14:00	3.00	N	Process Problems	Unexpected shutdown of the Recycle Compressor (C-0064) trip caused the Naphtha Unit (Unit 06) flow valve controller to operate in an open position, resulting in an increase in the overhead system's temperature and pressure. The recycle compressor would not restart during this time. The compressor shutdown procedure was followed to minimize excess SO ₂ emissions from the flare.	To minimize excess SO ₂ emissions from the flare, H ₂ S scavenger agent was injected upstream of the Flare Knockout (KO) drums in order to reduce the concentration of H ₂ S in the gas vented to the flare.
FL-400	CEMS	H ₂ S	09/22/2018 17:00	09/22/2018 19:00	2.00	N	Process Problems	Unexpected shutdown of Amine Unit Lean Amine Pump (P-0775). The spare Lean Amine Pump (P-0776) was started. While testing P-0775, the switch rack breaker feeding the breaker rack shorted causing a loss of power to both amine pumps. The Amine contactors could not operate, reducing the treating capacity of acid gas being sent to the fuel gas system. This caused an exceedance of the NSPS Ja 162 ppm H ₂ S 3-hour rolling average at the flare.	Electricians were called as soon as the switchgear malfunctioned, determining that the bucket style breaker tripped. The breaker was reset, the spare pump (P-0776) was restarted. The Amine contactors were returned online, resuming normal operation. To minimize excess SO ₂ emissions from the flare, operations promptly injected an H ₂ S scavenger agent upstream of the Flare Knockout drum in order to reduce the emissions of SO ₂ from the flare.
FL-400	CEMS	H ₂ S	09/23/2018 22:00	09/24/2018 05:00	7.00	N	Other Known Cause	The electrical power supply from a third party substation to the Artesia Refinery was interrupted for approximately 3 hours, resulting in the shutdown of several process units, as well as several pumps, compressors and other electric pieces of equipment within the refinery. Off-gas was continued to be produced some time after the power outage occurred and the process units shut down. Without the electrical power to operate amine contactors and H ₂ S strippers, the H ₂ S concentration in the FGS and Amine Unit increased. Because the FG is also used as vent gas in the flare system, the H ₂ S concentration increase in the FGS was transferred to the North Plant, FCC, and GOH flare systems, resulting in excess of the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	The electrical supply was promptly shifted to four additional substations that provide the electrical power to other sections of the refinery, allowing the electrical power to be restored, and process units to be restarted. The frequency of preventative maintenance activities performed by the third-party electrical substation was increased from semiannual to monthly basis.
FL-400	CEMS	H ₂ S	09/24/2018 07:00	09/24/2018 10:00	3.00	N	Other Known Cause		
FL-400	CEMS	H ₂ S	09/24/2018 14:00	09/24/2018 19:00	5.00	N	Other Known Cause		
FL-400	CEMS	H ₂ S	09/25/2018 13:00	09/26/2018 11:00	22.00	Y	Other Known Cause		
FL-400	CEMS	H ₂ S	09/26/2018 16:00	09/27/2018 00:00	8.00	Y	Other Known Cause		

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report North Plant Flare (FL-0400)FL-400 H₂S Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
FL-400	CEMS	H ₂ S	10/15/2018 23:00	10/16/2018 02:00	3.00	N	Process Problems	The pressure in the North Plant High Pressure Knock Out Drum (D-0768) increased. The excess pressure was relieved to the North Plant Flare, resulting in emissions to exceed the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	In an effort to minimize emissions, an H ₂ S scavenger agent was injected at maximum rate.
FL-400	CEMS	H ₂ S	10/16/2018 08:00	10/16/2018 13:00	5.00	N	Process Problems		
FL-400	CEMS	H ₂ S	10/17/2018 19:00	10/17/2018 21:00	2.00	N	Process Problems		
FL-400	CEMS	H ₂ S	10/23/2018 01:00	10/23/2018 05:00	4.00	N	Process Problems		
FL-400	CEMS	H ₂ S	10/26/2018 07:00	10/26/2018 11:00	4.00	N	Process Problems		
FL-400	CEMS	H ₂ S	10/27/2018 01:00	10/27/2018 04:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	10/31/2018 14:00	10/31/2018 17:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/01/2018 04:00	11/01/2018 07:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/02/2018 01:00	11/02/2018 04:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/04/2018 11:00	11/04/2018 14:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/08/2018 13:00	11/08/2018 16:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/08/2018 17:00	11/08/2018 23:00	6.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/09/2018 04:00	11/09/2018 07:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/09/2018 13:00	11/09/2018 16:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/10/2018 07:00	11/10/2018 10:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/10/2018 13:00	11/10/2018 17:00	4.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/10/2018 22:00	11/11/2018 01:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/11/2018 15:00	11/11/2018 18:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/12/2018 14:00	11/12/2018 15:00	1.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/12/2018 21:00	11/13/2018 00:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/13/2018 06:00	11/13/2018 09:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/13/2018 16:00	11/13/2018 19:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/13/2018 23:00	11/14/2018 02:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/14/2018 05:00	11/14/2018 08:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/14/2018 12:00	11/14/2018 15:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/16/2018 09:00	11/16/2018 12:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/17/2018 09:00	11/17/2018 12:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/18/2018 02:00	11/18/2018 12:00	10.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/19/2018 01:00	11/19/2018 04:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/19/2018 11:00	11/19/2018 14:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/21/2018 04:00	11/21/2018 11:00	7.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/25/2018 01:00	11/25/2018 05:00	4.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/25/2018 16:00	11/25/2018 19:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/26/2018 01:00	11/26/2018 04:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/26/2018 11:00	11/26/2018 14:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/26/2018 22:00	11/27/2018 02:00	4.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/27/2018 06:00	11/27/2018 12:00	6.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/27/2018 23:00	11/28/2018 02:00	3.00	N	Process Problems		

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report North Plant Flare (FL-0400)FL-400 H₂S Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
FL-400	CEMS	H ₂ S	11/28/2018 13:00	11/28/2018 16:00	3.00	N	Process Problems	The pressure in the North Plant High Pressure Knock Out Drum (D-0768) increased. The excess pressure was relieved to the North Plant Flare, resulting in emissions to exceed the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	In an effort to minimize emissions, an H ₂ S scavenger agent was injected at maximum rate.
FL-400	CEMS	H ₂ S	11/28/2018 20:00	11/28/2018 23:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/29/2018 17:00	11/29/2018 21:00	4.00	N	Process Problems		
FL-400	CEMS	H ₂ S	11/30/2018 15:00	11/30/2018 18:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/01/2018 03:00	12/01/2018 06:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/02/2018 23:00	12/03/2018 02:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/03/2018 08:00	12/03/2018 12:00	4.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/03/2018 15:00	12/03/2018 20:00	5.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/04/2018 00:00	12/04/2018 03:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/04/2018 04:00	12/04/2018 09:00	5.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/04/2018 10:00	12/04/2018 16:00	6.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/04/2018 18:00	12/04/2018 21:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/05/2018 01:00	12/05/2018 07:00	6.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/05/2018 12:00	12/05/2018 16:00	4.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/05/2018 17:00	12/05/2018 20:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/06/2018 01:00	12/06/2018 04:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/06/2018 09:00	12/06/2018 13:00	4.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/06/2018 17:00	12/06/2018 20:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/07/2018 03:00	12/07/2018 05:00	2.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/07/2018 21:00	12/08/2018 03:00	6.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/08/2018 05:00	12/08/2018 06:00	1.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/08/2018 07:00	12/08/2018 08:00	1.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/08/2018 10:00	12/10/2018 22:00	60.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/11/2018 06:00	12/11/2018 20:00	14.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/12/2018 06:00	12/12/2018 09:00	3.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/13/2018 08:00	12/13/2018 14:00	6.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/15/2018 17:00	12/15/2018 23:00	6.00	N	Process Problems	Unexpected shutdown of the Amine Unit Contactor, resulting in increase of the H ₂ S concentrations in the FGS and flare vent gas to exceed the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	Process adjustments were promptly made to establish normal operating conditions in the Amine Contactors. The Amine contactors resume the H ₂ S removal from the FGS, allowing the concentrations to decrease below the reportable limit.
FL-400	CEMS	H ₂ S	12/16/2018 15:00	12/16/2018 22:00	7.00	Y	Startup	Naphtha Hydrotreater (Unit 13) startup after repairs in the unit. During startup Splitter Distillate Drum (D-0044) is normally vented to flare until the operating conditions to complete startup area attained. Venting from D-0044 resulted in excess of the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	The unit was restarted and venting to flare ended.
FL-400	CEMS	H ₂ S	12/17/2018 23:00	12/18/2018 02:00	3.00	N	Process Problems	The pressure in the North Plant High Pressure Knock Out Drum (D-0768) increased. The excess pressure was relieved to the North Plant Flare, resulting in emissions to exceed the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	In an effort to minimize emissions, an H ₂ S scavenger agent was injected at maximum rate.
FL-400	CEMS	H ₂ S	12/23/2018 07:00	12/23/2018 16:00	9.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/25/2018 07:00	12/25/2018 11:00	4.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/26/2018 13:00	12/26/2018 20:00	7.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/26/2018 23:00	12/27/2018 00:00	1.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/28/2018 02:00	12/28/2018 07:00	5.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/28/2018 23:00	12/29/2018 00:00	1.00	N	Process Problems		
FL-400	CEMS	H ₂ S	12/31/2018 12:00	12/31/2018 17:00	5.00	N	Process Problems		
Total					404.00				

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja – 500 lb SO₂ 24-hour rolling average
Artesia North Plant Flare, FL-0400

§60.103a Design, equipment, work practice or operational standards

(c) Except as provided in paragraphs (f) and (g) of this section, each owner or operator that operates a flare subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) of this section.

(1) For a flare:

(i) Any time the SO₂ emissions exceed 227 kilograms (kg) (500 lb) in any 24-hour period; or

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) Fuel gas combustion devices subject to SO₂ or H₂S limit and flares subject to H₂S concentration requirements.

(2) The owner or operator of a fuel gas combustion device that elects to comply with the H₂S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H₂S concentration requirement in §60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H₂S in the fuel gases before being burned in any fuel gas combustion device or flare.

(3) The owner or operator of a fuel gas combustion device or flare is not required to comply with paragraph (a)(1) or (2) of this section for fuel gas streams that are exempt under §§60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content.

(e) *Sulfur monitoring for assessing root cause analysis threshold for affected flares.* Except as described in paragraphs (e)(4) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall determine the total reduced sulfur concentration for each gas line directed to the affected flare in accordance with either paragraph (e)(1), (e)(2) or (e)(3) of this section.

(1) *Total reduced sulfur monitoring requirements.* The owner or operator shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration of total reduced sulfur in gas discharged to the flare.

Flare FL-400 is subject to the 500 lbs SO₂ threshold monitoring requirements. Navajo maintains a CEMS for continuously measuring the concentration of total reduced sulfur in gas discharged to the flare.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report North Plant Flare (FL-0400)

FL-400 500 lb SO₂ CEMS Summary

Affected Source	FL-400 North Flare
Emission Limit Citation	§60.107a(e)(1)

Monitor Manufacturer and Model No.	ThermoScientific - SOLA II
Monitor Serial Number	SL-10040914
Date of Latest CMS Certification or Audit	12/07/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	0	0.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	184	0.00
Other Known Causes	8	22.00
Other Unknown Causes	0	0.00
Totals	192	22.00
Total CMS Downtime as a Percent of Total Source Operating Time		0.50%

Emission Data Summary		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0.00
Shutdown	0	0.00
Control Equipment Problems	0	0.00
Process Problems	2	60.00
Other Known Causes	2	69.00
Other Unknown Causes	0	0.00
Totals	4	129.00
Total Duration of Deviations as a Percent of Total Source Operating Time		2.92%

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report North Plant Flare (FL-0400)

FL-400 500 lb SO₂ CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-400	CEMS	SO ₂	08/23/2018 09:44	08/23/2018 12:09	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	SO ₂	08/23/2018 13:10	08/23/2018 15:00	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	SO ₂	09/14/2018 08:37	09/14/2018 11:23	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to determine cause of low sample flow.	The I&E technician flushed and cleared the sample line and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	SO ₂	10/23/2018 10:55	10/23/2018 11:05	0.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform routine maintenance.	The I&E technician changed the probe filter and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	SO ₂	10/30/2018 08:30	10/30/2018 09:46	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode for routine maintenance.	The E&I technician changed out the Genie, the water carry over, and the probe filters and returned the analyzer back to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	SO ₂	11/27/2018 09:00	11/27/2018 16:00	7.00	Other Known Cause	Other	The analyzer was placed in maintenance mode due to project tie-in.	The I&E technician proceeded with the RSR project tie-ins and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	SO ₂	11/28/2018 13:00	11/28/2018 16:00	3.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a linearity test.	The I&E technician performed a linearity test and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-400	CEMS	SO ₂	12/07/2018 09:10	12/07/2018 14:00	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
Total					22.00					

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report for North Plant Flare (FL-0400)FL-400 500 lb SO₂ Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted	Discharges Per 60.108a(d)(5)
FL-400	CEMS	SO ₂	09/24/2018 07:00	09/24/2018 23:00	16.00	N	Other Known Cause	Unexpected shutdown of the Naphtha Hydrotreating Unit (Unit 13) due to a flange leak. This caused the Naphtha Separator (D-0058) and Splitter Distillate (D-0044) to vent to the North Flare (FL-0400), resulting in emissions above the reporting threshold.	The flange was repaired. The gas was safely combusted in a steam-assisted flare and scavenger was injected into the system.	See Attached Event Record: "#4-2018-10-08 NSPS Ja RCA SO2 FL-0400".
FL-400	CEMS	SO ₂	09/25/2018 14:00	09/27/2018 19:00	53.00	N	Other Known Cause			
FL-400	CEMS	SO ₂	11/08/2018 18:00	11/09/2018 18:00	24.00	N	Process Problems	Process imbalance in the NHU debutanizer system, which included a pressure increase in the splitter overhead system, and resulted in venting of overhead gases with high sulfur (S) content from the Splitter Distillate Drum (D-0044). The associated flare emissions exceeded 500 pounds of sulfur dioxide (SO ₂) on a 24-hour basis.	The standard procedure for unit shutdown was followed. After the unit shutdown was completed, Feed Preheater (X-0342) was by-passed for inspection and cleaning, as needed. After the exchanger was isolated and by-passed, the Naphtha Hydrotreating Unit (NHU, Unit 13) was started up and was returned to normal operation as expeditiously as possible. Additional corrective actions may be implemented pending the outcome of the above-described further root cause analysis for the Feed Preheater (X-0342), and an update will be submitted within thirty days after completion of the implementation of any such additional corrective actions.	See Attached Event Record: "#5-2018-11-26 FL-0400 NSPS Ja SO2 RCA"".
FL-400	CEMS	SO ₂	12/07/2018 22:00	12/08/2018 10:00	36.00	N	Process Problems			See Attached Event Record: "#6-2018-12-27 NSPS Ja RCA SO2 FL-0400".
Total					129.00					

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja
Artesia South Plant Flare, FL-401

§60.100a Applicability, designation of affected facility, and reconstruction.

(b) For flares, the provisions of this subpart apply only to flares which commence construction, modification or reconstruction after June 24, 2008.

§60.101a Definitions.

Terms used in this subpart are defined in the Clean Air Act (CAA), in §60.2 and in this section.

***Emergency flare* means a flare that combusts gas exclusively released as a result of malfunctions (and not startup, shutdown, routine operations or any other cause) on four or fewer occasions in a rolling 365-day period. For purposes of this rule, a flare cannot be categorized as an emergency flare unless it maintains a water seal.**

***Non-emergency flare* means any flare that is not an emergency flare as defined in this subpart.**

Flare FL-401 is a Non-emergency flare. Modification or reconstruction occurred on Flare FL-401 after June 24, 2008. Therefore FL-401 is subject to NSPS Subpart Ja.

HollyFrontier Navajo Refining LLC
 Artesia, NM Refinery

NSPS Subpart Ja – 500 M SCF 24-hour rolling average
 Artesia South Plant Flare, FL-401

§60.103a Design, equipment, work practice or operational standards

(a) Except as provided in paragraph (g) of this section, each owner or operator that operates a flare that is subject to this subpart shall develop and implement a written flare management plan no later than the date specified in paragraph (b) of this section. The flare management plan must include the information described in paragraphs (a)(1) through (7) of this section. compressor staging and a justification for why the maximum time period cannot be further reduced.

(4) An evaluation of the baseline flow to the flare. The baseline flow to the flare must be determined after implementing the minimization assessment in paragraph (a)(2) of this section. Baseline flows do not include pilot gas flow or purge gas flow (i.e., gas introduced after the flare's water seal) provided these gas flows remain reasonably constant (i.e., separate flow monitors for these streams are not required). Separate baseline flow rates may be established for different operating conditions provided that the management plan includes:

(c) Except as provided in paragraphs (f) and (g) of this section, each owner or operator that operates a flare subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) of this section.

(1) For a flare:

(ii) Any discharge to the flare in excess of 14,160 standard cubic meters (m3) (500,000 standard cubic feet (scf)) above the baseline, determined in paragraph (a)(4) of this section, in any 24-hour period.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(f) Flow monitoring for flares. Except as provided in paragraphs (f)(2) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall install, operate, calibrate and maintain, in accordance with the specifications in paragraph (f)(1) of this section, a CPMS to measure and record the flow rate of gas discharged to the flare.

(1) The owner or operator shall install, calibrate, operate and maintain each flow monitor according to the manufacturer's procedures and specifications and the following requirements.

(iv) At least quarterly, perform a visual inspection of all components of the monitor for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion if the flow monitor is not equipped with a redundant flow sensor.

(v) Recalibrate the flow monitor in accordance with the manufacturer's procedures and specifications biennially (every two years) or at the frequency specified by the manufacturer.

Flare FL-401 is subject to the reporting threshold of 500 MSCF above the flow baseline in a 24-hour period. Navajo maintains a flow monitor for continuously measuring the flow to the flare. The Flare Management Plan submitted on November 11, 2015 established the baseline flow for FL-401 as 64,511 standard cubic feet per day (SCFD; where a day is any 24-hour period). Per 40 CFR §60.103a(c)(1)(ii), the threshold for an RCA and corrective action plan is 564,511 SCF in any 24-hour period.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report South Plant Flare (FL-0401)

FL-401 500M SCF CEMS Summary

Affected Source	FL-401 South Flare
Emission Limit Citation	§60.103a(c)(1)(ii)
Emission Limitation (SCF over baseline in rolling 24 hours)	500,000
Monitor Manufacturer and Model No.	General Electric - GF868-2-11
Monitor Serial Number	4384
Date of Latest CMS Certification or Audit	10/17/2017

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	16	40.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	0	0.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
Totals	16	40.00
Total CMS Downtime as a Percent of Total Source Operating Time		0.91%

Emission Data Summary (Exceeds 500,000 SCF over baseline in rolling 24 hours)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0.00
Shutdown	0	0.00
Control Equipment Problems	0	0.00
Process Problems	0	0.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
Totals	0	0.00
Total Duration of Deviations as a Percent of Total Source Operating Time		0.00%

HolyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report South Plant Flare (FL-0401)

FL-401 Flowmeter Downtime

CMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-401	Flowmeter	SCF	07/06/2018 09:00	07/06/2018 11:45	2.75	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	07/11/2018 11:30	07/11/2018 11:45	0.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	07/12/2018 07:15	07/12/2018 09:15	2.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	07/17/2018 14:15	07/17/2018 15:00	0.75	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	07/29/2018 15:15	07/29/2018 15:30	0.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	08/14/2018 17:00	08/14/2018 18:00	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	08/21/2018 11:00	08/21/2018 12:00	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	10/01/2018 13:30	10/01/2018 16:30	3.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	10/10/2018 09:00	10/10/2018 10:30	1.50	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	11/06/2018 09:00	11/06/2018 13:45	4.75	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	11/30/2018 14:00	11/30/2018 18:15	4.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	12/03/2018 09:45	12/03/2018 14:15	4.50	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	12/05/2018 08:15	12/05/2018 15:15	7.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	12/07/2018 11:15	12/07/2018 15:15	4.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report South Plant Flare (FL-0401)

FL-401 Flowmeter Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-401	Flowmeter	SCF	12/10/2018 09:45	12/10/2018 11:00	1.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	Flowmeter	SCF	12/28/2018 09:15	12/28/2018 10:30	1.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
					Total	40.00				

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report South Plant Flare (FL-0401)

FL-401 500M SCF Deviations

CMS Deviations

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted	Discharges Per 60.108a(d)(5)
FL-401	Flowmeter	SCF	NA	NA	0:00	NA	NA	No deviations - There were no discharges to the South Plant Flare (FL-0401) in excess of 500,000 standard cubic feet (scf) above the baseline in any 24-hour period.	NA	NA
				Total	0:00					

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja – 162 ppmvd H₂S 3-hour rolling average
Artesia South Plant Flare, FL-401

§60.103a Design, equipment, work practice or operational standards

(h) Each owner or operator shall not burn in any affected flare any fuel gas that contains H₂S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis. The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limit.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) Fuel gas combustion devices subject to SO₂ or H₂S limit and flares subject to H₂S concentration requirements.

(2) The owner or operator of a fuel gas combustion device that elects to comply with the H₂S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H₂S concentration requirement in §60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H₂S in the fuel gases before being burned in any fuel gas combustion device or flare.

(3) The owner or operator of a fuel gas combustion device or flare is not required to comply with paragraph (a)(1) or (2) of this section for fuel gas streams that are exempt under §§60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content.

(e) Sulfur monitoring for assessing root cause analysis threshold for affected flares.

(2) H₂S monitoring requirements. The owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration of H₂S in gas discharged to the flare according to the requirements in paragraphs (e)(2)(i) through (iii) of this section and shall collect and analyze samples of the gas and calculate total sulfur concentrations as specified in paragraphs (e)(2)(iv) through (ix) of this section.

Flare FL-401 is subject to the 162 ppmv hydrogen sulfide (H₂S) limit. Therefore, Navajo maintains an H₂S CEMS on Flare FL-401 that records concentrations in parts per million by volume on a dry basis (ppmvd). Note: 60.103a(h) exempts process upset gases and releases resulting from relief valve leakage or other emergency malfunctions from the requirement to meet the 162 ppm (H₂S) limit. In this report we have included information on these events subject to exemptions, and have identified them as such.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report South Plant Flare (FL-0401)

FL-401 H₂S CEMS Summary

Affected Source	FL-401 South Flare
Emission Limit Citation	§60.103a(h) §60.107a(e)(2)
Emission Limitation (H ₂ S ppmv on rolling 3-hours)	162

Monitor Manufacturer and Model No.	Siemens - Maxum II
Monitor Serial Number	30049702230200
Date of Latest CMS Certification or Audit	01/26/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	1	2.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	2	4.00
Quality Assurance/Quality Control Calibrations	184	0.00
Other Known Causes	9	38.00
Other Unknown Causes	0	0.00
Totals	196	44.00
Total CMS Downtime as a Percent of Total Source Operating Time		1.00%

Emission Data Summary (Exceeds 162 H ₂ S ppmv on rolling 3-hours)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0.00
Shutdown	0	0.00
Control Equipment Problems	0	0.00
Process Problems	1	6.00
Other Known Causes	0	0.00
Other Unknown Causes	6	179.00
Totals	7	185.00
Total Duration of Deviations as a Percent of Total Source Operating Time		4.19%

HolyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report South Plant Flare (FL-0401)

FL-401 H₂S CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-401	CEMS	H ₂ S	07/06/2018 08:18	07/06/2018 11:30	2.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to sample system low flow.	The I&E technician removed the sample valves and manifold and took back to shop. The valves and manifold were tested and some restrictions were removed. The system was reassembled and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	H ₂ S	07/12/2018 06:38	07/12/2018 09:36	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform maintenance.	The I&E technician repaired the Circo Valve going to the Siemens GC oven, and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	H ₂ S	07/17/2018 13:35	07/17/2018 14:51	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode for maintenance.	The I&E technician replaced the sample inlet valve and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	H ₂ S	08/21/2018 09:55	08/21/2018 15:35	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E Technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	H ₂ S	10/09/2018 10:30	10/09/2018 12:30	1.00	Non-Monitor Equipment Malfunction	Malfunction	The analyzer was placed into maintenance mode by error.	The I&E technician accidentally shut down the breaker for the GC oven while working on the TRS analyzer. When the error was found the breaker was reset, oven came back to temperature and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	H ₂ S	11/05/2018 13:20	11/05/2018 17:30	3.00	Non-Monitor Equipment Malfunction	Malfunction	The analyzer was down due a communication failure with the data server.	The communications was reestablished and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	H ₂ S	11/06/2018 08:25	11/06/2018 14:00	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to change out pump and make the RSR project tie-ins.	The pump was changed out, the tie-ins for the RSR project were completed, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	H ₂ S	11/30/2018 13:00	11/30/2018 18:30	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform maintenance.	The I&E technician performed maintenance on various CEMS lines and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	H ₂ S	12/03/2018 09:02	12/03/2018 14:15	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to flush the flare header.	The I&E technician flushed the flare header. When maintenance was completed the analyzers were returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	H ₂ S	12/05/2018 07:15	12/05/2018 15:08	8.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to flush the flare header.	The I&E technician flushed the flare header. When maintenance was completed the analyzers were returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	H ₂ S	12/07/2018 09:35	12/07/2018 15:15	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to flush the flare header.	The I&E technician flushed the flare header. When maintenance was completed the analyzers were returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	H ₂ S	12/10/2018 09:10	12/10/2018 11:00	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E Technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
Total					44.00					

HollyFrontier Navajo Refining LLC
 Artesia Refinery

NSPS Subpart Ja
 Periodic Report South Plant Flare (FL-0401)

FL-401 H₂S Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
FL-401	CEMS	H ₂ S	11/08/2018 12:00	11/08/2018 18:00	6.00	N	Process Problems	Emissions from the South Plant Flare (FL-0401) exceeded 162 ppm H ₂ S, on a 3-hour rolling average basis due to a relief valve on a surge drum lifting during a unit upset.	The pressure in surge drum was reduced, allowing the relief valve to reseal.
FL-401	CEMS	H ₂ S	11/30/2018 22:00	12/03/2018 13:00	63.00	N	Other Unknown Cause	The emissions from FL-0401 began to increase. H ₂ S scavenger was injected at maximum rate, with no reduction in emissions observed. Upon investigation, an obstruction as identified in the flare header. The flare header was lanced to remove the obstruction, allowing the emissions to decrease below 162 ppm H ₂ S, on a 3-hour rolling average basis.	Operations immediately began injecting H ₂ S Scavenger at the maximum rate. Operations then coordinated with maintenance personnel and outside contractors to lance the flare header and remove the debris.
FL-401	CEMS	H ₂ S	12/03/2018 19:00	12/04/2018 16:00	21.00	N	Other Unknown Cause		
FL-401	CEMS	H ₂ S	12/04/2018 19:00	12/05/2018 11:00	16.00	N	Other Unknown Cause		
FL-401	CEMS	H ₂ S	12/05/2018 18:00	12/07/2018 14:00	44.00	N	Other Unknown Cause		
FL-401	CEMS	H ₂ S	12/07/2018 19:00	12/08/2018 15:00	20.00	N	Other Unknown Cause		
FL-401	CEMS	H ₂ S	12/08/2018 20:00	12/09/2018 11:00	15.00	N	Other Unknown Cause		
Total					185.00				

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja – 500 lb SO₂ 24-hour rolling average
Artesia South Plant Flare, FL-401

§60.103a Design, equipment, work practice or operational standards

(c) Except as provided in paragraphs (f) and (g) of this section, each owner or operator that operates a flare subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) of this section.

(1) For a flare:

(i) Any time the SO₂ emissions exceed 227 kilograms (kg) (500 lb) in any 24-hour period; or

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) Fuel gas combustion devices subject to SO₂ or H₂S limit and flares subject to H₂S concentration requirements.

(2) The owner or operator of a fuel gas combustion device that elects to comply with the H₂S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H₂S concentration requirement in §60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H₂S in the fuel gases before being burned in any fuel gas combustion device or flare.

(3) The owner or operator of a fuel gas combustion device or flare is not required to comply with paragraph (a)(1) or (2) of this section for fuel gas streams that are exempt under §§60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content.

(e) *Sulfur monitoring for assessing root cause analysis threshold for affected flares.* Except as described in paragraphs (e)(4) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall determine the total reduced sulfur concentration for each gas line directed to the affected flare in accordance with either paragraph (e)(1), (e)(2) or (e)(3) of this section.

(1) *Total reduced sulfur monitoring requirements.* The owner or operator shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration of total reduced sulfur in gas discharged to the flare.

Flare FL-401 is subject to the 500 lbs SO₂ threshold monitoring requirements. Navajo maintains a CEMS for continuously measuring the concentration of total reduced sulfur in gas discharged to the flare.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report South Plant Flare (FL-0401)

FL-401 500 lb SO₂ CEMS Summary

Affected Source	FL-401 South Flare
Emission Limit Citation	§60.107a(e)(1)

Monitor Manufacturer and Model No.	ThermoScientific - SOLA II
Monitor Serial Number	SL10071014
Date of Latest CMS Certification or Audit	12/28/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	5	73.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	1	3.00
Quality Assurance/Quality Control Calibrations	185	2.00
Other Known Causes	11	45.00
Other Unknown Causes	0	0.00
Totals	202	123.00
Total CMS Downtime as a Percent of Total Source Operating Time		2.79%

Emission Data Summary		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0.00
Shutdown	0	0.00
Control Equipment Problems	0	0.00
Process Problems	0	0.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
Totals	0	0.00
Total Duration of Deviations as a Percent of Total Source Operating Time		0.00%

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report South Plant Flare (FL-0401)FL-401 500 lb SO₂ CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-401	CEMS	SO ₂	07/06/2018 08:18	07/06/2018 11:30	2.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to sample system low flow.	The I&E technician removed the sample valves and manifold for inspection. The valves and manifold were tested and updated restrictions. The system was reassembled and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	07/17/2018 13:35	07/17/2018 14:51	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode for maintenance.	The I&E technician replaced the sample inlet vale and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	07/29/2018 14:15	07/29/2018 16:19	2.00	Quality Assurance Calibration	Other	The analyzer was placed in calibration mode for data revalidation.	The IE technician observed an unexpected shift in the calibration numbers. The data was revalidated, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	08/17/2018 13:20	08/17/2018 15:04	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode due to a suspected calibration failure.	The I&E technician replaced the rotors and checked the clean air flow, recalibrated and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	08/21/2018 09:55	08/21/2018 15:35	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	09/25/2018 04:30	09/26/2018 09:44	30.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to new equipment communication failure.	The I&E technician disconnected the new equipment and recalibrated, and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	10/09/2018 04:30	10/09/2018 15:48	11.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to suspected calibration failure.	The I&E technician replaced the 10 port rotor and valve, shutting down the GC oven by accident. The GC was restarted, recalibrated, and returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	10/10/2018 08:15	10/10/2018 10:15	2.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a leak in the sample system.	The I&E technician located and repaired the leak on the 10 port valve, and returned the analyze to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	10/10/2018 04:30	10/11/2018 08:10	28.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a failed calibration	The I&E technician recalibrated and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	10/19/2018 08:40	10/19/2018 11:55	3.00	Other Known Cause	Other	The analyzer was placed in maintenance mode due to potential contamination of the pyrolyzer tube.	The I&E technician replaced the pyrolyzer tube, recalibrated and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	11/05/2018 13:20	11/05/2018 17:30	3.00	Non-Monitor Equipment Malfunction	Malfunction	The analyzer shut down due to loss of communication with the data server during installation of equipment for RSR project.	The communication was reestablished and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	11/06/2018 08:25	11/06/2018 14:00	5.00	Other Known Cause	Other	The analyzer is placed in maintenance mode to replace the sample pump and complete the RSR project tie-ins.	The pump was replaced, the tie-ins for the RSR project were completed, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	11/30/2018 13:00	11/30/2018 18:30	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform routine maintenance.	The I&E technician cleared various system lines, and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	12/03/2018 09:02	12/03/2018 14:15	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to flush the flare header.	The I&E technician flushed the flare header. When maintenance was completed the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	12/05/2018 07:15	12/05/2018 15:08	8.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to flush the flare header.	The I&E technician flushed the flare header. When maintenance was completed the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	12/07/2018 09:35	12/07/2018 15:15	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to flush the flare header.	The I&E technician flushed the flare header. When maintenance was completed the analyzer was returned to service.	No changes were made in operation of the emission control system.

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report South Plant Flare (FL-0401)FL-401 500 lb SO₂ CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-401	CEMS	SO ₂	12/10/2018 09:10	12/10/2018 11:00	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E Technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-401	CEMS	SO ₂	12/28/2018 08:45	12/28/2018 13:48	5.00	Other Known Cause	Other	The analyzer was placed into maintenance mode to perform a CGA.	The I&E Technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
Total					123.00					

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report South Plant Flare (FL-0401)FL-401 500 lb SO₂ Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted	Discharges Per 60.108a(d)(5)
FL-401	CEMS	SO ₂	NA	NA	NA	NA	NA	No deviations - Flare FL-0401 did not exceed 500 lbs of SO ₂ in any 24-hour period during this reporting period.	NA	NA
					Total	0.00				

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja
Artesia FCC Flare, FL-402

§60.100a Applicability, designation of affected facility, and reconstruction.

(b) For flares, the provisions of this subpart apply only to flares which commence construction, modification or reconstruction after June 24, 2008.

§60.101a Definitions.

Terms used in this subpart are defined in the Clean Air Act (CAA), in §60.2 and in this section.

***Emergency flare* means a flare that combusts gas exclusively released as a result of malfunctions (and not startup, shutdown, routine operations or any other cause) on four or fewer occasions in a rolling 365-day period. For purposes of this rule, a flare cannot be categorized as an emergency flare unless it maintains a water seal.**

***Non-emergency flare* means any flare that is not an emergency flare as defined in this subpart.**

Flare FL-402 is a Non-emergency flare. Modification or reconstruction occurred on Flare FL-402 after June 24, 2008. Therefore FL-4020 is subject to NSPS Subpart Ja.

HollyFrontier Navajo Refining LLC
 Artesia, NM Refinery

NSPS Subpart Ja – 500 M SCF 24-hour rolling average
 Artesia FCC Flare (FL-402)

§60.101a Definitions.

Flare. In the case of an interconnected flare gas header system, the flare includes each individual flare serviced by the interconnected flare gas header system and the interconnected flare gas header system.

§60.103a Design, equipment, work practice or operational standards

(a) Except as provided in paragraph (g) of this section, each owner or operator that operates a flare that is subject to this subpart shall develop and implement a written flare management plan no later than the date specified in paragraph (b) of this section. The flare management plan must include the information described in paragraphs (a)(1) through (7) of this section. compressor staging and a justification for why the maximum time period cannot be further reduced.

(4) An evaluation of the baseline flow to the flare. The baseline flow to the flare must be determined after implementing the minimization assessment in paragraph (a)(2) of this section. Baseline flows do not include pilot gas flow or purge gas flow (i.e., gas introduced after the flare's water seal) provided these gas flows remain reasonably constant (i.e., separate flow monitors for these streams are not required). Separate baseline flow rates may be established for different operating conditions provided that the management plan includes:

(c) Except as provided in paragraphs (f) and (g) of this section, each owner or operator that operates a flare subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) of this section.

(1) For a flare:

(ii) Any discharge to the flare in excess of 14,160 standard cubic meters (m³) (500,000 standard cubic feet (scf)) above the baseline, determined in paragraph (a)(4) of this section, in any 24-hour period.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(f) Flow monitoring for flares. Except as provided in paragraphs (f)(2) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall install, operate, calibrate and maintain, in accordance with the specifications in paragraph (f)(1) of this section, a CPMS to measure and record the flow rate of gas discharged to the flare.

(1) The owner or operator shall install, calibrate, operate and maintain each flow monitor according to the manufacturer's procedures and specifications and the following requirements.

(iv) At least quarterly, perform a visual inspection of all components of the monitor for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion if the flow monitor is not equipped with a redundant flow sensor.

(v) Recalibrate the flow monitor in accordance with the manufacturer's procedures and specifications biennially (every two years) or at the frequency specified by the manufacturer.

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The FCC Flare (FL-402) and the North Plant Flare (FL-400) were previously part of an interconnected network of flare headers, although they did not operate as interconnected flares.

The Flare Management Plan (FMP) submitted on November 11, 2015 established the combined flow baseline for FL-400 (North Plant) and FL-402 (FCC) flares as 1,077,961. As of July 2017, the physical connection between the flares headers was removed, and separate flow baselines were established for each flare. The July 2017 FMP update establishes a new flow baseline of 162,000 SCF in any 24-hour period for FL-402 (FCC), and a new flow baseline of 624,000 SCF in any 24-hour period for FL-400 (NP). Per 40 CFR §60.103a(c)(1)(ii), the threshold for a Root Cause Analysis and corrective action plan is 662,000 SCF in any 24-hour period for the FCC Flare, and 1,124,000 SCF in a 24-hour period for the NP Flare.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report FCC Flare (FL-0402)

FL-402 500M SCF CEMS Summary

Affected Source	FL-402 FCC Flare
Emission Limit Citation	§60.107a(f)
Emission Limitation (SCF over baseline in rolling 24 hours)	500,000

Monitor Manufacturer and Model No.	General Electric - GF868-2-11
Monitor Serial Number	4430
Date of Latest CMS Certification or Audit	10/17/2017

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	5	9.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	0	0.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
	5	0.00
Totals	5	9.00
Total CMS Downtime as a Percent of Total Source		0.20%

Emission Data Summary (Exceeds 500,000 SCF over baseline in rolling 24 hours)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0.00
Shutdown	1	166.00
Control Equipment Problems	0	0.00
Process Problems	2	49.00
Other Known Causes	1	23.00
Other Unknown Causes	0	0.00
Totals	4	238.00
Total Duration of Deviations as a Percent of Total Source Operating Time		5.39%

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report FCC Flare (FL-0402)

FL-402 Flowmeter Downtime

CMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-402	Flowmeter	SCF	08/14/2018 17:00	08/14/2018 18:00	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-402	Flowmeter	SCF	08/28/2018 02:15	08/28/2018 02:45	0.50	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-402	Flowmeter	SCF	09/02/2018 15:00	09/02/2018 18:00	3.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-402	Flowmeter	SCF	10/04/2018 10:30	10/04/2018 14:30	4.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-402	Flowmeter	SCF	10/06/2018 09:15	10/06/2018 09:30	0.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
Total					9.00					

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report FCC Flare (FL-0402)

FL-402 500M SCF Deviations

CMS Deviations

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted	Discharges Per 60.108a(d)(5)
FL-402	Flowmeter	SCF	07/22/2018 18:00	07/23/2018 18:00	24.00	Other	Process Problems	An unexpected shutdown of the Fluid Catalytic Cracking Unit (FCC, Unit 10) Lift Air Blower compressor due to a relay malfunction triggered the automatic shutdown of the FCC Unit. The FCC flare intermittently exceeded the flow baseline reporting threshold.	The flow charges and production rates in upstream units were reduced to minimize venting to the flare. The compressor's relay was reset and the FCC unit was restarted, allowing the discharge to the flare to end.	See Attached Event Record: "#7-2018-08-28 FL-0402 NSPS Ja Flow RCA".
FL-402	Flowmeter	SCF	08/27/2018 03:00	09/03/2018 01:00	166.00	Shutdown	Shutdown	The FCC unit began exceeding exceeded the flow baseline reporting threshold. Flaring of Alkylation feed from the FCC flare (FL-0402) occurred during a planned shutdown of the Alkylation Unit (Unit 09) to complete repairs to the Alky Flare (FL-0403) tip.	Unit charge and production rates were reduced accordingly, to adjust for the period of unit shutdown, and to minimize the discharge to the flare.	See Attached Event Record: "#8-2018-09-05 FL-0402 NSPS Ja Flow RCA".
FL-402	Flowmeter	SCF	09/05/2018 04:00	09/06/2018 05:00	25.00	Other	Process Problems	An unexpected shutdown of the FCC unit 10 Lift Air Blower compressor due to a relay malfunction triggered the automatic shutdown of the FCC Unit. The FCC flare intermittently exceeded the flow baseline reporting threshold.	The flow charges and production rates in upstream units were reduced to minimize venting to the flare. The compressor's relay was reset and the FCC unit was restarted, allowing the discharge to the flare to end.	See Attached Event Record: "#9-2018-10-08 FL-0402 NSPS Ja Flow RCA".
FL-402	Flowmeter	SCF	09/25/2018 14:00	09/26/2018 13:00	23.00	Other	Other Known Cause	The electrical power supply from a third party substation to the Artesia Refinery was interrupted for approximately 3 hours, resulting in the shutdown of several process units, as well as several pumps, compressors and other electric pieces of equipment within the refinery. The flaring associated with the units' shutdown contributed to discharge to the flare in excess of the flow baseline reporting threshold.	The electrical supply was promptly shifted to four additional substations that provide the electrical power to other sections of the refinery, allowing the electrical power to be restored. The frequency of preventative maintenance activities performed by the third-party electrical substation was increased from semiannual to monthly basis.	See Attached Event Record: "#10-2018-10-25 NSPS Ja RCA SO2 FL-0402".
Total					238.00					

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja – 162 ppmvd H₂S 3-hour rolling average
Artesia FCC Flare, FL-402

§60.103a Design, equipment, work practice or operational standards

(h) Each owner or operator shall not burn in any affected flare any fuel gas that contains H₂S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis. The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limit.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) Fuel gas combustion devices subject to SO₂ or H₂S limit and flares subject to H₂S concentration requirements.

(2) The owner or operator of a fuel gas combustion device that elects to comply with the H₂S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H₂S concentration requirement in §60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H₂S in the fuel gases before being burned in any fuel gas combustion device or flare.

(3) The owner or operator of a fuel gas combustion device or flare is not required to comply with paragraph (a)(1) or (2) of this section for fuel gas streams that are exempt under §§60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content.

(e) Sulfur monitoring for assessing root cause analysis threshold for affected flares.

(2) H₂S monitoring requirements. The owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration of H₂S in gas discharged to the flare according to the requirements in paragraphs (e)(2)(i) through (iii) of this section and shall collect and analyze samples of the gas and calculate total sulfur concentrations as specified in paragraphs (e)(2)(iv) through (ix) of this section.

Flare FL-402 is subject to the 162 ppmv hydrogen sulfide (H₂S) limit. Therefore, Navajo maintains an H₂S CEMS on Flare FL-402 that records concentrations in parts per million by volume on a dry basis (ppmvd). Note: 60.103a(h) exempts startup, shutdown, malfunction, and process upset gases, along with relief valve leakage, from the requirement to meet the 162 ppm (H₂S) limit. In this report we have included information on these events we believe are exempt, and have identified them as such.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report FCC Flare (FL-0402)

FL-402 H₂S CEMS Summary

Affected Source	FL-402 FCC Flare
Emission Limit Citation	§60.103a(h) §60.107a(e)(2)
Emission Limitation (H ₂ S ppmv on rolling 3-hours)	162

Monitor Manufacturer and Model No.	Siemens - Maxum II Extrel Max300-IG
Monitor Serial Number	30049702230400
Date of Latest CMS Certification or Audit	01/23/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	2	12.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	1	48.00
Quality Assurance/Quality Control Calibrations	185	7.00
Other Known Causes	6	97.00
Other Unknown Causes	0	0.00
Totals	194	164.00
Total CMS Downtime as a Percent of Total Source Operating Time		3.71%

Emission Data Summary (Exceeds 162 H ₂ S ppmv on rolling 3-hours)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0.00
Shutdown	4	110.00
Control Equipment Problems	0	0.00
Process Problems	11	92.00
Other Known Causes	1	46.00
Other Unknown Causes	0	0.00
Totals	16	248.00
Total Duration of Deviations as a Percent of Total Source Operating Time		5.62%

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report FCC Flare (FL-0402)

FL-402 H₂S CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-402	CEMS	H ₂ S	08/23/2018 09:40	08/23/2018 11:30	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-402	CEMS	H ₂ S	08/23/2018 13:15	08/23/2018 15:35	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-402	CEMS	H ₂ S	10/30/2018 08:00	10/31/2018 00:00	16.00	Other Known Cause	Other	The GC analyzer was taken out of service to be replaced with a mass spectrometer (MS).	The project team removed the GC from service and placed the MS online.	No changes were made in operation of the emission control system.
FL-402	CEMS	H ₂ S	10/31/2018 00:00	11/01/2018 00:00	24.00	Other Known Cause	Other			
FL-402	CEMS	H ₂ S	11/01/2018 00:00	11/02/2018 00:00	24.00	Other Known Cause	Other			
FL-402	CEMS	H ₂ S	11/02/2018 00:00	11/03/2018 06:30	30.00	Other Known Cause	Other			
FL-402	CEMS	H ₂ S	11/03/2018 06:45	11/03/2018 14:13	7.00	Monitor Equipment Malfunction	Malfunction	The mass spectrometer analyzer failed to calibrate due to computer sequence errors.	The system was adjusted and a manual calibration was run. The MS was returned to service.	No changes were made in operation of the emission control system.
FL-402	CEMS	H ₂ S	11/04/2018 06:45	11/04/2018 12:07	5.00	Monitor Equipment Malfunction	Malfunction	The MS analyzer failed to calibrate due to computer sequence errors.	The system was adjusted and a manual calibration was run. The MS was returned to service.	No changes were made in operation of the emission control system.
FL-402	CEMS	H ₂ S	11/14/2018 09:15	11/16/2018 09:15	48.00	Non-Monitor Equipment Malfunction	Malfunction	The MS was taken out of service due to transfer line steam damage.	The transfer line was replaced, the analyzer was recalibrated, and returned to service.	No changes were made in operation of the emission control system.
FL-402	CEMS	H ₂ S	12/13/2018 06:30	12/13/2018 14:04	7.00	Quality Assurance Calibration	Other	The MS was placed into calibration mode due to suspect validation numbers.	The I&E technician completed an auto validation and returned the analyzer to service.	No changes were made in operation of the emission control system.
				Total	164.00					

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report FCC Flare (FL-0402)FL-402 H₂S Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
FL-402	CEMS	H ₂ S	07/01/2018 16:00	07/01/2018 19:00	3.00	Y	Shutdown	Pump (P-0955) was purged and vented to the flare in preparation for maintenance.	H ₂ S scavenger was injected at maximum rate to reduce the concentration of this gas in the flare header and to aid in minimizing emissions.
FL-402	CEMS	H ₂ S	07/21/2018 22:00	07/23/2018 03:00	29.00	N	Process Problems	An unexpected shutdown of the Fluid Catalytic Cracking Unit (FCC, Unit 10) Lift Air Blower compressor due to a relay malfunction triggered the automatic shutdown of the FCC unit. The flaring following the sudden unit shutdown resulted in emissions above 162 ppm H ₂ S, on a 3-hour rolling average basis.	H ₂ S scavenger was injected at maximum rate to reduce the concentration of this gas in the flare header and to aid in minimizing emissions. The flow charges and production rates in upstream units were reduced to minimize venting to the flare. The compressor's relay was reset and the FCC unit was restarted, allowing the discharge to the flare to end.
FL-402	CEMS	H ₂ S	07/25/2018 23:00	07/26/2018 06:00	7.00	N	Process Problems	The FCC unit shut down unexpectedly following malfunction of the fractionator pumparound. During this time, overhead gases were vented from the FCC unit to the FCC Flare (FL-0402).	The pumparound was restarted and the unit retuned online, ending the venting to flare.
FL-402	CEMS	H ₂ S	08/23/2018 08:00	08/23/2018 11:00	3.00	N	Process Problems	Operations vented non-condensable gases from the FCC overhead system to address an unexpected pressure increase in the system.	When the pressure in the unit was within normal operating range, the venting to the stopped.
FL-402	CEMS	H ₂ S	08/27/2018 01:00	08/31/2018 04:00	99.00	Y	Shutdown	A controlled shutdown of the Alkylation Unit was implemented in order to repair damage discovered in the Alky Flare tip. The unit was placed in recirculation mode, maintaining enough flare vent gas flow to allow the flare pilot to remain lit. The procedure for placing the Alky Unit in recirculation mode requires that the alkylation feed stream, which is produced by the FCC unit, to be vented to the FCC Flare (FL-0402) during this period. As a result, the H ₂ S concentration at the flare header increased above 162 ppm, on a 3-hour rolling average basis.	The standard procedure for unit shutdown was followed, thereby taking steps to minimize the impact of emissions on ambient air quality.
FL-402	CEMS	H ₂ S	08/31/2018 15:00	08/31/2018 20:00	5.00	Y	Shutdown		
FL-402	CEMS	H ₂ S	09/02/2018 07:00	09/02/2018 10:00	3.00	N	Process Problems	The flare emissions exceeded 162 H ₂ S ppmvd, on a 3-hour rolling average basis, as the FCC production rate was being increased, after repair work in the Alkylation Unit was completed and the Alkylation Unit was placed on line.	The H ₂ S scavenger injection rate in the FCC Flare vent gas was maximized to reduce the concentration of this gas in the flare header, and thereby, minimize excess emissions.
FL-402	CEMS	H ₂ S	09/04/2018 12:00	09/05/2018 16:00	28.00	N	Process Problems	An unexpected shutdown of the FCC unit 10 Lift Air Blower compressor due to a relay malfunction triggered the automatic shutdown of the FCC Unit. The flare exceeded 162 ppm H ₂ S, on a 3-hour rolling average basis.	The flow charges and production rates in upstream units were reduced to minimize venting to the flare. The compressor's relay was reset and the FCC unit was restarted, allowing emissions to decrease below the reportable limit.
FL-402	CEMS	H ₂ S	09/11/2018 10:00	09/11/2018 13:00	3.00	Y	Shutdown	FCC absorber Bottoms Pump (P-0954) was purged to the FCC Flare (FL-0402) in preparation for planned maintenance work. During this process, the flare exceeded 162 ppm H ₂ S, on a 3-hour rolling average basis.	The pump purge was conducted in accordance to maintenance work preparation procedures. The H ₂ S scavenger injection rate in the flare header was maximized to reduce the of this gas in the flare header, and thereby, minimize excess emissions.

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report FCC Flare (FL-0402)FL-402 H₂S Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
FL-402	CEMS	H ₂ S	09/22/2018 05:00	09/22/2018 08:00	3.00	N	Process Problems	Unexpected shutdown of Amine Unit Lean Amine Pump (P-0775). The spare Lean Amine Pump (P-0776) was started. While testing P-0775, the switch rack breaker feeding the breaker rack shorted causing a loss of power to both amine pumps. The Amine contactors could not operate, reducing the treating capacity of acid gas being sent to the fuel gas system. This caused an exceedance of the NSPS Ja 162 ppm H ₂ S 3-hour rolling average at the flare.	Electricians were called as soon as the switchgear malfunctioned, determining that the bucket style breaker tripped. The breaker was reset, the spare pump (P-0776) was restarted. The Amine contactors were retuned online, resuming normal operation. To minimize excess SO ₂ emissions from the flare, operations promptly injected an H ₂ S scavenger agent upstream of the Flare Knockout drum in order to reduce the emissions of SO ₂ from the flare.
FL-402	CEMS	H ₂ S	09/22/2018 16:00	09/22/2018 20:00	4.00	N	Process Problems		
FL-402	CEMS	H ₂ S	09/23/2018 21:00	09/25/2018 19:00	46.00	N	Other Known Cause	The electrical power supply from a third party substation to the Artesia Refinery was interrupted for approximately 3 hours, resulting in the shutdown of several process units, as well as several pumps, compressors and other electric pieces of equipment within the refinery. Off-gas was continued to be produced some time after the power outage occurred and the process units shut down. Without the electrical power to operate amine contactors and H ₂ S strippers, the H ₂ S concentration in the FGS and Amine Unit increased. Because the FG is also used as vent gas in the flare system, the H ₂ S concentration increase in the FGS was transferred to the North Plant, FCC, and GOH flare systems, resulting in excess of the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	The electrical supply was promptly shifted to four additional substations that provide the electrical power to other sections of the refinery, allowing the electrical power to be restored, and process units to be restarted. The frequency of preventative maintenance activities performed by the third-party electrical substation was increased from semiannual to monthly basis.
FL-402	CEMS	H ₂ S	10/16/2018 08:00	10/16/2018 11:00	3.00	N	Process Problems	Due to a process upset in the Amine Unit, the H ₂ S the FGS was not efficiently removed, resulting in the concentration of this gas in the FGS to increase. FSG is also used as FCC sweep gas, therefore, the H ₂ S concentration also increased in the FCC flare header, exceeding the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	Process adjustments were promptly made to establish normal operating conditions in the amine contactors. The amine contactors resume the H ₂ S removal from the FGS, allowing the concentrations to decrease below the reportable limit.
FL-402	CEMS	H ₂ S	10/19/2018 23:00	10/20/2018 03:00	4.00	N	Process Problems	Water present in the FCC cold feed from the feed tank T-0400 caused high pressure in the unit's heated surge drum. The excess pressure was relieved to the flare.	The flow charges and production rates in upstream units were reduced to minimize venting to the flare. The H ₂ S scavenger injection rate was maximized to reduce the concentration of this gas in the flare header.
FL-402	CEMS	H ₂ S	11/28/2018 22:00	11/29/2018 01:00	3.00	N	Unknown Cause	Unknown Cause	Unknown Cause
FL-402	CEMS	H ₂ S	12/07/2018 23:00	12/08/2018 03:00	4.00	N	Process Problems	Process upset in Unit 13 contributed to the increase of H ₂ S the FGS. FSG is also used as FCC sweep gas, therefore, the H ₂ S concentration also increased in the FCC flare header, exceeding the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	Normal operation was re-established in Unit 13, allowing the concentration of H ₂ S in the FGS and flare header to decrease below the reportable limit.
FL-402	CEMS	H ₂ S	12/10/2018 10:00	12/10/2018 13:00	3.00	N	Process Problems	SRU2 compressor trip resulted in increase of the H ₂ S concentration in the FGS and FCC sweep gas, above the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	H ₂ S scavenger was added in the flare header at maximum rate and SRU2 was restarted.
FL-402	CEMS	H ₂ S	12/31/2018 11:00	12/31/2018 16:00	5.00	N	Process Problems	Water present in the FCC cold feed from the feed tank T-0400 caused high pressure in the unit's heated surge drum. The excess pressure was relieved to the flare, resulting in emissions above the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	The flow charges and production rates in upstream units were reduced to minimize venting to the flare. The H ₂ S scavenger injection rate was maximized to reduce the concentration of this gas in the flare header.
Total					255.00				

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja – 500 lb SO₂ 24-hour rolling average
Artesia FCC Flare, FL-402

§60.103a Design, equipment, work practice or operational standards

(c) Except as provided in paragraphs (f) and (g) of this section, each owner or operator that operates a flare subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) of this section.

(1) For a flare:

(i) Any time the SO₂ emissions exceed 227 kilograms (kg) (500 lb) in any 24-hour period; or

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) Fuel gas combustion devices subject to SO₂ or H₂S limit and flares subject to H₂S concentration requirements.

(2) The owner or operator of a fuel gas combustion device that elects to comply with the H₂S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H₂S concentration requirement in §60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H₂S in the fuel gases before being burned in any fuel gas combustion device or flare.

(3) The owner or operator of a fuel gas combustion device or flare is not required to comply with paragraph (a)(1) or (2) of this section for fuel gas streams that are exempt under §§60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content.

(e) *Sulfur monitoring for assessing root cause analysis threshold for affected flares.* Except as described in paragraphs (e)(4) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall determine the total reduced sulfur concentration for each gas line directed to the affected flare in accordance with either paragraph (e)(1), (e)(2) or (e)(3) of this section.

(1) *Total reduced sulfur monitoring requirements.* The owner or operator shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration of total reduced sulfur in gas discharged to the flare.

Flare FL-402 is subject to the 500 lbs SO₂ threshold monitoring requirements. Navajo maintains a CEMS for continuously measuring the concentration of total reduced sulfur in gas discharged to the flare.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report FCC Flare (FL-0402)

FL-402 500 lb SO₂ CEMS Summary

Affected Source	FL-402 FCC Flare
Emission Limit Citation	§60.107a(e)(1)

Monitor Manufacturer and Model No.	ThermoScientific - SOLA II Extrel Max300-IG
Monitor Serial Number	SL-10061014
Date of Latest CMS Certification or Audit	05/31/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	3	44.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	185	1.00
Other Known Causes	7	145.00
Other Unknown Causes	0	0.00
Totals	195	190.00
Total CMS Downtime as a Percent of Total Source Operating Time		4.30%

Emission Data Summary		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0.00
Shutdown	1	97.00
Control Equipment Problems	0	0.00
Process Problems	2	78.00
Other Known Causes	1	25.00
Other Unknown Causes	0	0.00
Totals	4	200.00
Total Duration of Deviations as a Percent of Total Source Operating Time		4.53%

HolyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report FCC Flare (FL-0402)

FL-402 500 lb SO₂ CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-402	CEMS	SO ₂	08/23/2018 09:40	08/23/2018 11:30	1.00	Other Known Cause	Other	The analyzer was placed into maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-402	CEMS	SO ₂	08/23/2018 13:15	08/23/2018 15:35	2.00	Other Known Cause	Other	The analyzer was placed into maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-402	CEMS	SO ₂	10/25/2018 09:45	10/25/2018 11:10	1.00	Quality Assurance Calibration	Other	The analyzer was placed into calibration mode to recalibrate.	The I&E technician recalibrated and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-402	CEMS	SO ₂	10/30/2018 08:00	10/31/2018 00:00	16.00	Other Known Cause	Other	The Sola analyzer was taken out of service to be replaced with a mass spectrometer (MS).	The project team replaced the SOLA analyzer with the MS.	No changes were made in operation of the emission control system.
FL-402	CEMS	SO ₂	10/31/2018 00:00	11/01/2018 00:00	24.00	Other Known Cause	Other	The Sola analyzer was taken out of service to be replaced with a mass spectrometer (MS).	The project team replaced the SOLA analyzer with the MS.	No changes were made in operation of the emission control system.
FL-402	CEMS	SO ₂	11/01/2018 00:00	11/02/2018 00:00	24.00	Other Known Cause	Other	The Sola analyzer was taken out of service to be replaced with a mass spectrometer (MS).	The project team replaced the SOLA analyzer with the MS.	No changes were made in operation of the emission control system.
FL-402	CEMS	SO ₂	11/02/2018 00:00	11/03/2018 06:30	30.00	Other Known Cause	Other	The Sola analyzer was taken out of service to be replaced with a mass spectrometer (MS).	The project team replaced the SOLA analyzer with the MS.	No changes were made in operation of the emission control system.
FL-402	CEMS	SO ₂	11/03/2018 06:45	11/03/2018 14:13	7.00	Monitor Equipment Malfunction	Malfunction	The MS failed to calibrate due to computer sequence failures.	The calibration failed to successfully calibrate due to a sequencing issue. The system was adjusted and a manual calibration was run. The MS analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-402	CEMS	SO ₂	11/04/2018 06:45	11/04/2018 12:07	5.00	Monitor Equipment Malfunction	Malfunction	The MS failed to calibrate due to computer sequence failures.	The calibration failed to successfully calibrate due to a sequencing issue. The system was adjusted and a manual calibration was run. The MS analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-402	CEMS	SO ₂	11/14/2018 09:15	11/16/2018 09:15	48.00	Other Known Cause	Other	The MS was taken out of service due to transfer line steam damage.	The transfer line was replaced, recalibrated, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-402	CEMS	SO ₂	12/12/2018 06:45	12/13/2018 14:04	32.00	Monitor Equipment Malfunction	Malfunction	The MS was placed into maintenance mode due to a failed calibration	The I&E technician reran the validation, and returned the analyzer to service.	No changes were made in operation of the emission control system.
Total					190.00					

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report FCC Flare (FL-0402)

FL-402 500 lb SO₂ Excess Emissions

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted	Discharges Per 60.108a(d)(5)
FL-402	CEMS	SO ₂	07/22/2018 03:00	7/23/18 19:00	40.00	N	Process Problems	An unexpected shutdown of the Fluid Catalytic Cracking Unit (FCC, Unit 10) Lift Air Blower compressor due to a relay malfunction triggered the automatic shutdown of the FCC unit. The flaring following the sudden unit shutdown resulted in sulfur dioxide (SO ₂) emissions above 500 pounds in a 24 hour period.	H ₂ S scavenger was injected at maximum rate to reduce the concentration of this gas in the flare header and to aid in minimizing emissions. The flow charges and production rates in upstream units were reduced to minimize venting to the flare. The compressor's relay was reset and the FCC unit was restarted, allowing the discharge to the flare to end.	See Attached Event Record: "#11-2018-08-28 FL-402 NSPS Ja RCA SO ₂ ".
FL-402	CEMS	SO ₂	08/27/2018 09:00	8/31/18 10:00	97.00	Y	Shutdown	A controlled shutdown of the Alkylation Unit was implemented in order to repair damage discovered in the Alky Flare tip. The unit was placed in recirculation mode, maintaining enough flare vent gas flow to allow the flare pilot to remain lit. The procedure for placing the Alky Unit in recirculation mode requires that the alkylation feed stream, which is produced by the FCC unit, to be vented to the FCC Flare (FL-0402) during this period. As a result, the SO ₂ emissions increased above 500 pounds in a 24-hour period.	The standard procedure for unit shutdown was followed, thereby taking steps to minimize the impact of emissions on ambient air quality.	See Attached Event Record: "#12-2018-09-04 NSPS Ja RCA SO ₂ FL-0402".
FL-402	CEMS	SO ₂	09/04/2018 16:00	9/6/18 6:00	38.00	N	Process Problems	An unexpected shutdown of the FCC unit 10 Lift Air Blower compressor due to a relay malfunction triggered the automatic shutdown of the FCC Unit. The flaring following the unit shutdown caused SO ₂ emissions to exceed 500 pounds in a 24-hour period.	The flow charges and production rates in upstream units were reduced to minimize venting to the flare. The compressor's relay was reset and the FCC unit was restarted, allowing emissions to decrease below the reportable limit.	See Attached Event Record: "#13-2018-10-08 NSPS Ja RCA SO ₂ FL-0402".
FL-402	CEMS	SO ₂	09/25/2018 14:00	9/26/18 15:00	25.00	N	Other Known Cause	The electrical power supply from a third party substation to the Artesia Refinery was interrupted for approximately 3 hours, resulting in the shutdown of several process units, as well as several pumps, compressors and other electric pieces of equipment within the refinery. Off-gas was continued to be produced some time after the power outage occurred and the process units shut down. Without the electrical power to operate amine contactors and H ₂ S strippers, the H ₂ S concentration in the FGS and Amine Unit increased. The flaring associated with the units' shutdown and subsequent startup resulted in emissions from the FCC Flare to exceed 500 lbs SO ₂ in a 24-hour period.	The electrical supply was promptly shifted to four additional substations that provide the electrical power to other sections of the refinery, allowing the electrical power to be restored. The frequency of preventative maintenance activities performed by the third-party electrical substation was increased from semiannual to monthly basis.	See Attached Event Record: "#14-2018-10-25 NSPS Ja RCA SO ₂ FL-0402".
					Total	200.00				

HollyFrontier Navajo Refining LLC
 Artesia, NM Refinery

NSPS Subpart Ja
 Artesia Alky Flare, FL-403

§60.100a Applicability, designation of affected facility, and reconstruction.

(b) For flares, the provisions of this subpart apply only to flares which commence construction, modification or reconstruction after June 24, 2008.

§60.101a Definitions.

Terms used in this subpart are defined in the Clean Air Act (CAA), in §60.2 and in this section.

Emergency flare means a flare that combusts gas exclusively released as a result of malfunctions (and not startup, shutdown, routine operations or any other cause) on four or fewer occasions in a rolling 365-day period. For purposes of this rule, a flare cannot be categorized as an emergency flare unless it maintains a water seal.

Non-emergency flare means any flare that is not an emergency flare as defined in this subpart.

Flare FL-403 is a non-emergency flare. Modification or reconstruction occurred on Flare FL-403 after June 24, 2008. Therefore, FL-403 is subject to NSPS Subpart Ja.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(b) *Exemption from H₂S monitoring requirements for low-sulfur fuel gas streams.* The owner or operator of a fuel gas combustion device or flare may apply for an exemption from the H₂S monitoring requirements in paragraph (a)(2) of this section for a fuel gas stream that is inherently low in sulfur content. A fuel gas stream that is demonstrated to be low-sulfur is exempt from the monitoring requirements of paragraphs (a)(1) and (2) of this section until there are changes in operating conditions or stream composition.

(c) *Sulfur monitoring for assessing root cause analysis threshold for affected flares.* Except as described in paragraphs (e)(4) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall determine the total reduced sulfur concentration for each gas line directed to the affected flare in accordance with either paragraph (e)(1), (e)(2) or (e)(3) of this section. Different options may be elected for different gas lines. If a monitoring system is in place that is capable of complying with the requirements related to either paragraph (e)(1), (e)(2) or (e)(3) of this section, the owner or operator of a modified flare must comply with the requirements related to either paragraph (e)(1), (e)(2) or (e)(3) of this section upon startup of the modified flare. If a monitoring system is not in place that is capable of complying with the requirements related to either paragraph (e)(1), (e)(2) or (e)(3) of this section, the owner or operator of a modified flare must comply with the requirements related to either paragraph (e)(1), (e)(2) or (e)(3) of this section no later than November 11, 2015 or upon startup of the modified flare, whichever is later.

(4) Exemptions from sulfur monitoring requirements. Flares identified in paragraphs (e)(4)(i) through (iv) of this section are exempt from the requirements in paragraphs (e)(1) through (3) of this section. For each such flare, except as provided in paragraph (e)(4)(iv), engineering calculations shall be used to calculate the SO₂ emissions in the event of a discharge that may trigger a root cause analysis under §60.103a(c)(1).

(i) Flares that can only receive:

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

(A) Fuel gas streams that are inherently low in sulfur content as described in paragraph (a)(3)(i) through (iv) of this section; and/or

(B) Fuel gas streams that are inherently low in sulfur content for which the owner or operator has applied for an exemption from the H₂S monitoring requirements as described in paragraph (b) of this section.

(ii) Emergency flares, provided that for each such flare, the owner or operator complies with the monitoring alternative in paragraph (g) of this section.

(iii) Flares equipped with flare gas recovery systems designed, sized and operated to capture all flows except those resulting from startup, shutdown or malfunction, provided that for each such flare, the owner or operator complies with the monitoring alternative in paragraph (g) of this section.

(iv) Secondary flares that receive gas diverted from the primary flare. In the event of a discharge from the secondary flare, the sulfur content measured by the sulfur monitor on the primary flare should be used to calculate SO₂ emissions, regardless of whether or not the monitoring alternative in paragraph (g) of this section is selected for the secondary flare.

Flare FL-403 is a non-emergency flare. Modification or reconstruction occurred on Flare FL-403 after June 24, 2008.

Flare FL-403 receives flow from the Alkylation Unit (Unit 09) only, and does not operate as part of an interconnected or cascaded flare system. Because the Alkylation Unit is, by design, inherently low in sulfur, the Flare FL-403 system meets the exemption in 60.107a(b) and 60.107a(e)(4). Therefore, FL-403 is not subject to the NSPS Subpart Ja sulfur monitoring requirements.

HollyFrontier Navajo Refining LLC
 Artesia, NM Refinery

NSPS Subpart Ja – 500 M SCF 24-hour rolling average
 Artesia Alky Flare, FL-403

§60.103a Design, equipment, work practice or operational standards

(a) Except as provided in paragraph (g) of this section, each owner or operator that operates a flare that is subject to this subpart shall develop and implement a written flare management plan no later than the date specified in paragraph (b) of this section. The flare management plan must include the information described in paragraphs (a)(1) through (7) of this section. compressor staging and a justification for why the maximum time period cannot be further reduced.

(4) An evaluation of the baseline flow to the flare. The baseline flow to the flare must be determined after implementing the minimization assessment in paragraph (a)(2) of this section. Baseline flows do not include pilot gas flow or purge gas flow (i.e., gas introduced after the flare's water seal) provided these gas flows remain reasonably constant (i.e., separate flow monitors for these streams are not required). Separate baseline flow rates may be established for different operating conditions provided that the management plan includes:

(c) Except as provided in paragraphs (f) and (g) of this section, each owner or operator that operates a flare subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) of this section.

(1) For a flare:

(ii) Any discharge to the flare in excess of 14,160 standard cubic meters (m3) (500,000 standard cubic feet (scf)) above the baseline, determined in paragraph (a)(4) of this section, in any 24-hour period.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(f) Flow monitoring for flares. Except as provided in paragraphs (f)(2) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall install, operate, calibrate and maintain, in accordance with the specifications in paragraph (f)(1) of this section, a CPMS to measure and record the flow rate of gas discharged to the flare.

(1) The owner or operator shall install, calibrate, operate and maintain each flow monitor according to the manufacturer's procedures and specifications and the following requirements.

(iv) At least quarterly, perform a visual inspection of all components of the monitor for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion if the flow monitor is not equipped with a redundant flow sensor.

(v) Recalibrate the flow monitor in accordance with the manufacturer's procedures and specifications biennially (every two years) or at the frequency specified by the manufacturer.

Flare FL-403 is subject to the reporting threshold of 500 MSCF above the flow baseline in a 24-hour period. Navajo maintains a flow monitor for continuously measuring the flow to the flare. The Flare Management Plan submitted on November 11, 2015 established the baseline flow for FL-403 as 85,403 standard cubic feet per day (SCFD; where a day is any 24-hour period). Per 40 CFR §60.103a(c)(1)(ii), the threshold for an RCA and corrective action plan is 585,403 SCF in any 24-hour period.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report Alky Flare (FL-0403)

FL-403 500M SCF CEMS Summary

Affected Source	FL-403 Alky Flare
Emission Limit Citation	§60.103a(c)(1)(ii)
Emission Limitation (SCF over baseline in rolling 24 hours)	500,000

Monitor Manufacturer and Model No.	General Electric - GF868-2-11
Monitor Serial Number	4383
Date of Latest CMS Certification or Audit	10/18/2017

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	7	7.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	0	0.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
Totals	7	7.00
Total CMS Downtime as a Percent of Total Source Operating Time		0.16%

Emission Data Summary (Exceeds 500,000 SCF over baseline in rolling 24 hours)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	0	0.00
Shutdown	1	12.00
Control Equipment Problems	0	0.00
Process Problems	1	55.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
Totals	2	67.00
Total Duration of Deviations as a Percent of Total Source Operating Time		1.52%

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report Alky Flare (FL-0403)

FL-403 Flowmeter Downtime

CMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-403	Flowmeter	SCF	07/23/2017 05:00	07/23/2017 05:15	0.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician corrected the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-403	Flowmeter	SCF	08/07/2017 06:30	08/07/2017 09:30	3.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician corrected the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-403	Flowmeter	SCF	08/14/2017 07:00	08/14/2017 07:15	0.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician corrected the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-403	Flowmeter	SCF	09/21/2017 17:00	09/21/2017 17:15	0.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician corrected the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-403	Flowmeter	SCF	08/14/2018 17:00	08/14/2018 18:00	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician corrected the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-403	Flowmeter	SCF	08/27/2018 13:45	08/27/2018 14:00	0.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician corrected the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-403	Flowmeter	SCF	10/04/2018 09:00	10/04/2018 11:00	2.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician corrected the analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
Total					7.00					

HollyFrontier Navajo Refining LLC
 Artesia Refinery

NSPS Subpart Ja
 Periodic Report Alky Flare (FL-0403)

FL-403 500M SCF Deviations

CMS Deviations

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted	Discharges Per 60.108a(d)(5)
FL-403	Flowmeter	SCF	08/11/2018 11:00	08/11/2018 23:00	12.00	Y	Shutdown	Depressured the Propane Treater (D-0629) for maintenance to replace media.	All standard operating procedures were followed to minimize emissions from the flare during shutdown.	See Attached Event Record: "#15-2018-08-28 FL-0403 NSPS Ja Flow RCA".
FL-403	Flowmeter	SCF	09/18/2018 18:00	09/21/2018 01:00	55.00	N	Process Problems	W-79 began venting non-condensables to FL-0403.	W-79 completed venting non-condensables and flaring was minimized.	See Attached Event Record: "#16-2018-10-05 FL-0403 NSPS Ja Flow RCA".
					Total	67.00				

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja
Artesia GOH Flare, FL-404

§60.100a Applicability, designation of affected facility, and reconstruction.

(b) For flares, the provisions of this subpart apply only to flares which commence construction, modification or reconstruction after June 24, 2008.

§60.101a Definitions.

Terms used in this subpart are defined in the Clean Air Act (CAA), in §60.2 and in this section.

***Emergency flare* means a flare that combusts gas exclusively released as a result of malfunctions (and not startup, shutdown, routine operations or any other cause) on four or fewer occasions in a rolling 365-day period. For purposes of this rule, a flare cannot be categorized as an emergency flare unless it maintains a water seal.**

***Non-emergency flare* means any flare that is not an emergency flare as defined in this subpart.**

Flare FL-404 is a Non-emergency flare. Modification or reconstruction occurred on Flare FL-404 after June 24, 2008. Therefore FL-4040 is subject to NSPS Subpart Ja.

HollyFrontier Navajo Refining LLC
 Artesia, NM Refinery

NSPS Subpart Ja – 500 M SCF 24-hour rolling average
 Artesia GOH Flare, FL-404

§60.103a Design, equipment, work practice or operational standards

(a) Except as provided in paragraph (g) of this section, each owner or operator that operates a flare that is subject to this subpart shall develop and implement a written flare management plan no later than the date specified in paragraph (b) of this section. The flare management plan must include the information described in paragraphs (a)(1) through (7) of this section. compressor staging and a justification for why the maximum time period cannot be further reduced.

(4) An evaluation of the baseline flow to the flare. The baseline flow to the flare must be determined after implementing the minimization assessment in paragraph (a)(2) of this section. Baseline flows do not include pilot gas flow or purge gas flow (i.e., gas introduced after the flare's water seal) provided these gas flows remain reasonably constant (i.e., separate flow monitors for these streams are not required). Separate baseline flow rates may be established for different operating conditions provided that the management plan includes:

(c) Except as provided in paragraphs (f) and (g) of this section, each owner or operator that operates a flare subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) of this section.

(1) For a flare:

(ii) Any discharge to the flare in excess of 14,160 standard cubic meters (m3) (500,000 standard cubic feet (scf)) above the baseline, determined in paragraph (a)(4) of this section, in any 24-hour period.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(f) Flow monitoring for flares. Except as provided in paragraphs (f)(2) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall install, operate, calibrate and maintain, in accordance with the specifications in paragraph (f)(1) of this section, a CPMS to measure and record the flow rate of gas discharged to the flare.

(1) The owner or operator shall install, calibrate, operate and maintain each flow monitor according to the manufacturer's procedures and specifications and the following requirements.

(iv) At least quarterly, perform a visual inspection of all components of the monitor for physical and operational integrity and all electrical connections for oxidation and galvanic corrosion if the flow monitor is not equipped with a redundant flow sensor.

(v) Recalibrate the flow monitor in accordance with the manufacturer's procedures and specifications biennially (every two years) or at the frequency specified by the manufacturer.

Flare FL-404 is subject to the reporting threshold of 500 MSCF above the flow baseline in a 24-hour period. Navajo maintains a flow monitor for continuously measuring the flow to the flare. The Flare Management Plan submitted on November 11, 2015 established the baseline flow for FL-404 to be 3,504,000 standard cubic feet per day (SCFD; where a day is any 24-hour period). Per 40 CFR §60.103a(c)(1)(ii), the threshold for an RCA and corrective action plan is 4,004,000 SCF in any 24-hour period. The June 2017 Flare Management Plan update included an alternative flow baseline of 8,500,000 SCF in any 24-hour period for excess hydrogen flaring during outages of the hydrogen units (Unit 63 and 64), or hydrogen consumers. The threshold for a Root Cause Analysis and corrective action plan is 9,000,000 SCF in any 24-hour period.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report GOHT Flare (FL-0404)

FL-404 500M SCF CEMS Summary

Affected Source	FL-404 GOH Flare
Emission Limit Citation	§60.103a(c)(1)(ii)
Emission Limitation (SCF over baseline in rolling 24 hours)	500,000

Monitor Manufacturer and Model No.	General Electric - GF868-2-11
Monitor Serial Number	4382
Date of Latest CMS Certification or Audit	10/18/2017

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	13	19.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	0	0.00
Other Known Causes	0	0.00
Other Unknown Causes	0	0.00
Totals	13	19.00
Total CMS Downtime as a Percent of Total Source Operating Time		0.43%

Emission Data Summary (Exceeds 500,000 SCF over baseline in rolling 24 hours)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	3	60.00
Shutdown	1	59.00
Control Equipment Problems	0	0.00
Process Problems	1	19.00
Other Known Causes	5	232.00
Other Unknown Causes	0	0.00
Totals	10	370.00
Total Duration of Deviations as a Percent of Total Source Operating Time		8.38%

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report GOHT Flare (FL-0404)

FL-404 Flowmeter Downtime

CMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-404	Flowmeter	SCF	07/30/2018 09:30	07/30/2018 12:00	2.50	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	Flowmeter	SCF	08/14/2018 17:00	08/14/2018 18:00	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	Flowmeter	SCF	09/05/2018 09:15	09/05/2018 10:15	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	Flowmeter	SCF	09/11/2018 14:15	09/11/2018 15:30	1.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	Flowmeter	SCF	09/14/2018 01:45	09/14/2018 02:15	0.50	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	Flowmeter	SCF	09/17/2018 12:30	09/17/2018 13:15	0.75	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	Flowmeter	SCF	10/02/2018 08:00	10/02/2018 11:30	3.50	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	Flowmeter	SCF	11/05/2018 10:15	11/05/2018 11:30	1.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	Flowmeter	SCF	11/26/2018 09:15	11/26/2018 11:45	2.50	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	Flowmeter	SCF	11/27/2018 15:15	11/27/2018 15:30	0.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	Flowmeter	SCF	11/28/2018 09:00	11/28/2018 09:15	0.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.

HollyFrontier Navajo Refining LLC
 Artesia Refinery

NSPS Subpart Ja
 Periodic Report GOHT Flare (FL-0404)

FL-404 Flowmeter Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-404	Flowmeter	SCF	12/11/2018 08:45	12/11/2018 09:45	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	Flowmeter	SCF	12/27/2018 10:00	12/27/2018 13:15	3.25	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to an analyzer malfunction.	The I&E technician performed maintenance to correct an analyzer malfunction, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
				Total	19:00					

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report GOHT Flare (FL-0404)

FL-404 500M SCF Deviations

CMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted	Discharges Per 60.108a(d)(5)
FL-404	Flowmeter	SCF	07/19/2018 16:00	07/20/2018 02:00	10.00	Y	Startup	Hydrogen venting to the GOH Flare (FL-0404) during startup of the Hydrogen Plant No. 1 (Unit 63), and increased rate in the CCR contribute to the increase of hydrogen flow directed to the flare.	The startup of Unit 63 was completed and the production rate in the hydrogen Plant No.2 (Unit 64) was dialed back to minimum rate, reducing the hydrogen flow vented to the flare.	See Attached Event Records: "#17-2018-08-25 FL-0404 NSPS Ja Alt Baseline Flow RCA" and "#18-2018-10-25 FL-0404 NSPS Ja Alt Baseline Flow RCA".
FL-404	Flowmeter	SCF	07/22/2018 05:00	07/23/2018 17:00	36.00	Y	Startup			
FL-404	Flowmeter	SCF	08/27/2018 16:00	08/30/2018 03:00	59.00	Y	Shutdown	During the shutdown period of the Alkylation Unit for flare tip repairs, the production rates in the hydrotreater units was reduced, minimizing their hydrogen consumption. The hydrogen that was not consumed by these units during this period had to be vented to the GOH flare, contributing to the flare flow to increase above the reporting threshold.	The repairs to the Alkylation Flare tip were completed and the Alkylation unit was restarted. The hydrotreaters' production and hydrogen consumption were increased to normal rates, reducing the hydrogen discharge to the flare.	See Attached Event Record: "#19-2018-10-25 FL-0404 NSPS Ja Alt Baseline Flow RCA".
FL-404	Flowmeter	SCF	09/23/2018 18:00	09/25/2018 00:00	30.00	N	Other Known Cause	The electrical power supply from a third party substation to the Artesia Refinery was interrupted for approximately 3 hours, resulting in the shutdown of several process units, as well as several pumps, compressors and other electric pieces of equipment within the refinery. The flaring associated with the units' shutdown contributed to discharge to the flare in excess of the flow baseline reporting threshold.	The electrical supply was promptly shifted to four additional substations that provide the electrical power to other sections of the refinery, allowing the electrical power to be restored. The frequency of preventative maintenance activities performed by the third-party electrical substation was increased from semiannual to monthly basis.	See Attached Event Record: "#20-2018-10-16 FL-0404 NSPS Ja Alt Baseline Flow RCA".
FL-404	Flowmeter	SCF	09/25/2018 18:00	09/25/2018 23:00	5.00	N	Other Known Cause	The electrical power supply from a third party substation to the Artesia Refinery was interrupted for approximately 3 hours, resulting in the shutdown of several process units, as well as several pumps, compressors and other electric pieces of equipment within the refinery. The flaring associated with the units' shutdown contributed to discharge to the flare in excess of the flow baseline reporting threshold.	The electrical supply was promptly shifted to four additional substations that provide the electrical power to other sections of the refinery, allowing the electrical power to be restored. The frequency of preventative maintenance activities performed by the third-party electrical substation was increased from semiannual to monthly basis.	See Attached Event Record: "#20-2018-10-16 FL-0404 NSPS Ja Alt Baseline Flow RCA".
FL-404	Flowmeter	SCF	09/28/2018 13:00	09/29/2018 03:00	14.00	Y	Startup	Startup of the Mild Hydrocracker Unit (MHC) following a planned shutdown for MHC Guard Bed Reactor catalyst replacement.	The planned shutdown and startup procedures were followed.	See Attached Event Record: "#21-2018-10-17 FL-0404 NSPS Ja Alt Baseline Flow RCA" and "#22-2018-10-25 NSPS Ja RCA SO2 FL-0404".
FL-404	Flowmeter	SCF	10/29/2018 05:00	10/30/2018 00:00	19.00	N	Process Problems	Unexpected shutdown of Diesel Hydrotreater (DHT, Unit 33) Recycle Compressor (C-0693) due to a seal malfunction in the oil level indicator. The hydrogen feed not consumed by the DHT during the shutdown period was vented to the flare, causing the flare flow to exceed the alternative baseline flow reporting threshold of 9 MMSCF in a 24-hour period. Presence of water in the conduit to the level indicator was identified as the cause of the seal malfunction that resulted in the unit shutdown.	I&3 technicians removed the water, restarted the compressor and the DHT, stopping the venting of excess hydrogen to the flare.	See Attached Event Record: "#23-2018-11-06 FL-0404 NSPS Ja Alt Baseline Flow RCA".
FL-404	Flowmeter	SCF	11/19/2018 16:00	11/25/2018 01:00	129.00	Other	Other Known Cause	Between 11/19/18 and 11/26/2018, the GOH Flare (FL-0404) flow baseline reporting threshold was exceeded. During this period, discharges to the flare associated to the startup of the ROSE (Unit 25), the venting of hydrogen associated with an unexpected shutdown of the Diesel Hydrotreater (DHT, Unit 33) Recycle Hydrogen Compressor (C-0693), the planned shutdown of the Mild Hydrotreater (MHC) unit, and the unit startup of several process units after an unexpected interruption of electrical power to the refinery, contributed to increasing the flare flow above the reporting threshold.	Units were restarted; C-693 was repaired returned online.	See Attached Event Record: "#24-2018-12-06 FL-0404 NSPS Ja Baseline Flow RCA".
FL-404	Flowmeter	SCF	11/25/2018 15:00	11/27/2018 20:00	53.00	Other	Other Known Cause			
FL-404	Flowmeter	SCF	11/29/2018 04:00	11/29/2018 19:00	15.00	Other	Other Known Cause			
Total					370.00					

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja – 162 ppmvd H₂S 3-hour rolling average
Artesia GOH Flare, FL-404

§60.103a Design, equipment, work practice or operational standards

(h) Each owner or operator shall not burn in any affected flare any fuel gas that contains H₂S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis. The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this limit.

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) Fuel gas combustion devices subject to SO₂ or H₂S limit and flares subject to H₂S concentration requirements.

(2) The owner or operator of a fuel gas combustion device that elects to comply with the H₂S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H₂S concentration requirement in §60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H₂S in the fuel gases before being burned in any fuel gas combustion device or flare.

(3) The owner or operator of a fuel gas combustion device or flare is not required to comply with paragraph (a)(1) or (2) of this section for fuel gas streams that are exempt under §§60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content.

(e) Sulfur monitoring for assessing root cause analysis threshold for affected flares.

(2) H₂S monitoring requirements. The owner or operator shall install, operate, calibrate, and maintain an instrument for continuously monitoring and recording the concentration of H₂S in gas discharged to the flare according to the requirements in paragraphs (e)(2)(i) through (iii) of this section and shall collect and analyze samples of the gas and calculate total sulfur concentrations as specified in paragraphs (e)(2)(iv) through (ix) of this section.

Flare FL-404 is subject to the 162 ppmv hydrogen sulfide (H₂S) limit. Therefore, Navajo maintains an H₂S CEMS on Flare FL-404 that records concentrations in parts per million by volume on a dry basis (ppmvd). Note: 60.103a(h) exempts process upset gases and releases resulting from relief valve leakage or other emergency malfunctions from the requirement to meet the 162 ppm (H₂S) limit. In this report we have included information on these events subject to exemptions, and have identified them as such.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report for GOHT Flare (FL-0404)

FL-404 H₂S CEMS Summary

Affected Source	FL-404 GOH Flare
Emission Limit Citation	§60.103a(h) §60.107a(e)(2)
Emission Limitation (H ₂ S ppmv on rolling 3-hours)	162

Monitor Manufacturer and Model No.	Siemens - Maxum II
Monitor Serial Number	30049702230100
Date of Latest CMS Certification or Audit	02/14/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	4	745.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	184	0.00
Other Known Causes	10	78.00
Other Unknown Causes	0	0.00
Totals	198	823.00
Total CMS Downtime as a Percent of Total Source Operating Time		18.64%

Emission Data Summary (Exceeds 162 H ₂ S ppmv on rolling 3-hours)		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	3	30.00
Shutdown	2	9.00
Control Equipment Problems	0	0.00
Process Problems	7	78.00
Other Known Causes	5	25.00
Other Unknown Causes	2	3.00
Totals	19	145.00
Total Duration of Deviations as a Percent of Total Source Operating Time		3.28%

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report for GOHT Flare (FL-0404)

FL-404 H₂S CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-404	CEMS	H ₂ S	07/30/2018 08:55	07/30/2018 11:50	3.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform maintenance.	The I&E technician changed the probe filter and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	08/22/2018 09:41	08/22/2018 11:36	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The E&I technician performed the CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	09/05/2018 05:00	09/05/2018 10:15	5.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to low sample pressure.	The I&E technician identified contamination in the sample pump as the cause of malfunction. The sample pump was cleaned and rebuilt, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	09/11/2018 13:30	09/11/2018 15:20	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform maintenance.	The I&E technician replaced the sample pump assembly in the SCS cabinet, and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	09/13/2018 23:00	09/14/2018 02:00	3.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a sample pump failure.	The I&E technician repaired the pump, replacing the diaphragm and valves, and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	09/17/2018 11:45	09/17/2018 13:15	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform routine maintenance.	The I&E technician changed the probe filter, the water carry over filter, rebuilt sample pump, and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	10/24/2018 08:57	10/26/2018 14:39	53.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to complete the installation of new equipment for the RSR upgrade.	Maintenance/project work was being performed for the RSR upgrade, and the analyzer was returned to service when completed.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	10/26/2018 14:39	11/01/2018 00:00	129.00	Monitor Equipment Malfunction	Malfunction	The monitor was placed in maintenance mode due to analyzer failures.	The technician repaired the analyzer and returned it to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	11/01/2018 00:00	11/26/2018 08:00	608.00	Monitor Equipment Malfunction	Malfunction	The monitor was placed in maintenance mode due to analyzer failures.	The technician repaired the analyzer and returned it to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	11/26/2018 08:37	11/26/2018 11:42	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to complete project tie-in.	The I&E technician proceeded with the RSR project tie-ins and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	11/27/2018 09:00	11/27/2018 16:00	7.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to complete project tie-in.	The I&E technician proceeded with the RSR project tie-ins and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	11/28/2018 07:40	11/28/2018 12:00	4.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to complete a linearity test.	The I&E technician performed a linearity test and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	H ₂ S	12/06/2018 10:36	12/06/2018 12:22	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The E&I technician performed the CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.

HolyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report for GOHT Flare (FL-0404)FL-404 H₂S CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-404	CEMS	H ₂ S	12/27/2018 08:05	12/27/2018 13:15	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode due to plugged probe and pump.	The I&E technician replaced the filter and rebuilt pump. The sample system would not heat up. Freed up pressure switch and the system heated, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
				Total	823.00					

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report for GOHT Flare (FL-0404)FL-404 H₂S Excess Emissions

CEMS Monitored Excess Emissions									
Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
FL-404	CEMS	H ₂ S	08/06/2018 15:00	08/06/2018 16:00	1.00	N	Other Unknown Cause	The GOH (FL-0404) flare header exceeded the NSPS Ja limit of 162 ppm H ₂ S, on a 3-hour rolling average basis. Operations conducted a unit wide walk-through looking for potential equipment and relief valve leaks with no issues found.	Operations immediately increased H ₂ S scavenger injection rate. The event ended before the actual cause of the event could be determined or corrective actions were implemented.
FL-404	CEMS	H ₂ S	08/26/2018 16:00	08/26/2018 18:00	2.00	N	Other Unknown Cause	The GOH flare header exceeded the NSPS Ja limit of 162 ppm H ₂ S, on a 3-hour rolling average basis. Operations conducted a unit wide walk-through looking for potential equipment and relief valve leaks with no issues found.	Operations immediately increased H ₂ S scavenger injection rate. The event ended before the actual cause of the event could be determined or corrective actions were implemented.
FL-404	CEMS	H ₂ S	08/29/2018 06:00	08/29/2018 09:00	3.00	Y	Shutdown	The GOH flare header exceeded the NSPS Ja limit of 162 ppm H ₂ S, on a 3-hour rolling average basis while depressuring the Asphaltene Separator (D-2502) for planned maintenance on Unit 25.	A controlled venting to the flare was monitored to relieve the pressure in the drum. As soon as the pressure in the drum was reduced within normal operating values, the venting to flare was stopped. The gas was safely combusted and dispersed from a steam-assisted flare, which aides in dispersion.
FL-404	CEMS	H ₂ S	09/06/2018 18:00	09/07/2018 05:00	11.00	Y	Startup	During start up of Unit 25, drum D-2506 was vented to flare to maintain pressure and levels.	The standard operating procedures were followed to minimize emissions from the flare during startup of the units. Scavenger was injected to minimize SO ₂ emissions.
FL-404	CEMS	H ₂ S	09/22/2018 05:00	09/22/2018 08:00	3.00	N	Process Problems	Unexpected shutdown of Amine Unit Lean Amine Pump (P-0775). The spare Lean Amine Pump (P-0776) was started. While testing P-0775, the switch rack breaker feeding the breaker rack shorted causing a loss of power to both amine pumps. The amine contactors could not operate, reducing the treating capacity of acid gas being sent to the fuel gas system. This caused an exceedance of the NSPS Ja 162 ppm H ₂ S 3-hour rolling average at the flare.	Electricians were called as soon as the switchgear malfunctioned, determining that the bucket style breaker tripped. The breaker was reset, the spare pump (P-0776) was restarted. The Amine contactors were returned online, resuming normal operation. To minimize excess SO ₂ emissions from the flare, operations promptly injected an H ₂ S scavenger agent upstream of the Flare Knockout drum in order to reduce the emissions of SO ₂ from the flare.
FL-404	CEMS	H ₂ S	09/22/2018 21:00	09/23/2018 03:00	6.00	Y	Shutdown	Planned shutdown of the Mild Hydrocracker (MHC) unit for catalyst replacement in the Guard Bed Reactor. The unit shutdown procedure was followed. During the shutdown and decontamination of the MHC, pressure normally builds up in the reactors and the fractionator, which has to be relieved to the flare.	The unit shutdown procedure was followed. Additionally, H ₂ S scavenger was injected at maximum rate to reduce the concentration of this gas in the flare header. The minimum volume necessary to safely de-pressure the system was vented to the flare.
FL-404	CEMS	H ₂ S	09/23/2018 07:00	09/23/2018 15:00	8.00	N	Other Known Cause	The electrical power supply from a third party substation to the Artesia Refinery was interrupted for approximately 3 hours, resulting in the shutdown of several process units, as well as several pumps, compressors and other electric pieces of equipment within the refinery. Off-gas was continued to be produced some time after the power outage occurred and the process units shut down. Without the electrical power to operate amine contactors and H ₂ S strippers, the H ₂ S concentration in the FGS and Amine Unit increased. Because the FG is also used as vent gas in the flare system, the H ₂ S concentration increase in the FGS was transferred to the North Plant, FCC, and GOH flare systems, resulting in excess of the NSPS Ja 162 ppm H ₂ S 3-hour rolling average.	The electrical supply was promptly shifted to four additional substations that provide the electrical power to other sections of the refinery, allowing the electrical power to be restored, and process units to be restarted. The frequency of preventative maintenance activities performed by the third-party electrical substation was increased form semiannual to monthly basis.
FL-404	CEMS	H ₂ S	09/23/2018 22:00	09/24/2018 07:00	9.00	N	Other Known Cause		
FL-404	CEMS	H ₂ S	09/24/2018 10:00	09/24/2018 13:00	3.00	N	Other Known Cause		
FL-404	CEMS	H ₂ S	09/24/2018 19:00	09/24/2018 22:00	3.00	N	Other Known Cause		
FL-404	CEMS	H ₂ S	09/25/2018 08:00	09/25/2018 10:00	2.00	N	Other Known Cause		
FL-404	CEMS	H ₂ S	09/28/2018 17:00	09/29/2018 11:00	18.00	Y	Startup		
FL-404	CEMS	H ₂ S	09/29/2018 15:00	09/29/2018 16:00	1.00	Y	Startup	Startup of the MHC after catalyst replacement in the Guard Bed Reactor.	The unit startup procedure was followed.

HollyFrontier Navajo Refining LLC
Artesia RefineryNSPS Subpart Ja
Periodic Report for GOHT Flare (FL-0404)FL-404 H₂S Excess Emissions

CEMS Monitored Excess Emissions									
Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted
FL-404	CEMS	H ₂ S	10/01/2018 11:00	10/03/2018 03:00	40.00	N	Process Problems	An increase of the FGS H ₂ S concentration was transferred to the flare header, causing the NSPS Ja 162 ppm H ₂ S 3-hour rolling average to be exceeded intermittently.	There are three scavenger injection points to the flare system. Adjusting these injection points did not alleviate the issue. Investigation continued and operations found a plugged quill at one of the injection points.
FL-404	CEMS	H ₂ S	10/03/2018 05:00	10/03/2018 22:00	17.00	N	Process Problems		
FL-404	CEMS	H ₂ S	10/04/2018 11:00	10/04/2018 15:00	4.00	N	Process Problems		
FL-404	CEMS	H ₂ S	10/04/2018 17:00	10/04/2018 23:00	6.00	N	Process Problems		
FL-404	CEMS	H ₂ S	10/05/2018 10:00	10/05/2018 12:00	2.00	N	Process Problems		
FL-404	CEMS	H ₂ S	10/05/2018 16:00	10/05/2018 22:00	6.00	N	Process Problems		
Total					145.00				

HollyFrontier Navajo Refining LLC
Artesia, NM Refinery

NSPS Subpart Ja – 500 lb SO₂ 24-hour rolling average
Artesia GOH Flare, FL-404

§60.103a Design, equipment, work practice or operational standards

(c) Except as provided in paragraphs (f) and (g) of this section, each owner or operator that operates a flare subject to this subpart shall conduct a root cause analysis and a corrective action analysis for each of the conditions specified in paragraphs (c)(1) of this section.

(1) For a flare:

(i) Any time the SO₂ emissions exceed 227 kilograms (kg) (500 lb) in any 24-hour period; or

§60.107a Monitoring of emissions and operations for fuel gas combustion devices and flares.

(a) Fuel gas combustion devices subject to SO₂ or H₂S limit and flares subject to H₂S concentration requirements.

(2) The owner or operator of a fuel gas combustion device that elects to comply with the H₂S concentration limits in §60.102a(g)(1)(ii) or a flare that is subject to the H₂S concentration requirement in §60.103a(h) shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration by volume (dry basis) of H₂S in the fuel gases before being burned in any fuel gas combustion device or flare.

(3) The owner or operator of a fuel gas combustion device or flare is not required to comply with paragraph (a)(1) or (2) of this section for fuel gas streams that are exempt under §§60.102a(g)(1)(iii) or 60.103a(h) or, for fuel gas streams combusted in a process heater, other fuel gas combustion device or flare that are inherently low in sulfur content.

(e) *Sulfur monitoring for assessing root cause analysis threshold for affected flares.* Except as described in paragraphs (e)(4) and (h) of this section, the owner or operator of an affected flare subject to §60.103a(c) through (e) shall determine the total reduced sulfur concentration for each gas line directed to the affected flare in accordance with either paragraph (e)(1), (e)(2) or (e)(3) of this section.

(1) *Total reduced sulfur monitoring requirements.* The owner or operator shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration of total reduced sulfur in gas discharged to the flare.

Flare FL-404 is subject to the 500 lbs SO₂ threshold monitoring requirements. Navajo maintains a CEMS for continuously measuring the concentration of total reduced sulfur in gas discharged to the flare.

HollyFrontier Navajo Refining LLC
Artesia Refinery

NSPS Subpart Ja
Periodic Report GOHT Flare (FL-0404)

FL-404 500 lb SO₂ CEMS Summary

Affected Source	FL-404 GOH Flare
Emission Limit Citation	§60.107a(e)(1)
Emission Limitation (lbs SO ₂ in rolling 24 hours)	500
Monitor Manufacturer and Model No.	ThermoScientific - SOLA II
Monitor Serial Number	SL-10030914
Date of Latest CMS Certification or Audit	12/06/2018

Reporting Period Beginning Date	07/01/2018
Reporting Period Ending Date	12/31/2018

Total Time in Reporting Period	(hours)	4416
Total Source Downtime	(hours)	0
Total Source Operating Time in Reporting Period	(hours)	4416

CMS Performance Summary		
CMS downtime in reporting period due to:	Number of Incidents	Duration (Hours)
Monitoring Equipment Malfunctions	4	39.00
Non-Monitoring Equipment Malfunctions (e.g., Computer, Data Recorder, Etc.)	0	0.00
Quality Assurance/Quality Control Calibrations	185	1.00
Other Known Causes	9	25.00
Other Unknown Causes	0	0.00
Totals	198	65.00
Total CMS Downtime as a Percent of Total Source Operating Time		1.47%

Emission Data Summary		
Duration of excess emissions in reporting period due to:	Number of Incidents	Duration (Hours)
Startup	1	24.00
Shutdown	0	0.00
Control Equipment Problems	0	0.00
Process Problems	0	0.00
Other Known Causes	1	10.00
Other Unknown Causes	0	0.00
Totals	2	34.00
Total Duration of Deviations as a Percent of Total Source Operating Time		0.77%

HollyFrontier Navajo Refining LLC
Artesia, NM RefineryNSPS Subpart JA
Periodic Report GOHT Flare (FL-0404)FL-404 500 lb SO₂ CEMS Downtime

CEMS Downtime

Affected Source Name	Monitor Type	Monitored HAP or Gas	Downtime Start Date and Time	Downtime End Date and Time	Duration of Downtime (hours)	Type of Downtime Period	Type of Cause of Deviation	Brief Description of Cause of Downtime	Corrective Action Taken	Changes to Emission Control 60.108a(d)(6)
FL-404	CEMS	SO ₂	07/21/2018 08:42	07/21/2018 09:50	1.00	Quality Assurance Calibration	Other	The analyzer was placed in calibration mode to verify calibration values.	The E&I technician ran calibration gases to the probe to check the analyzer and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	07/30/2018 08:55	07/30/2018 11:50	3.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform maintenance.	The I&E technician changed the probe filter and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	08/22/2018 13:20	08/22/2018 15:15	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E Technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	09/05/2018 05:00	09/05/2018 10:15	5.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to low sample pressure.	The I&E technician determined that the low pressure was caused by sample pump contamination. The sample pump head was cleaned, the pump rebuilt, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	09/11/2018 13:30	09/11/2018 15:20	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform maintenance.	The I&E technician replaced the sample pump assembly on the SCS cabinet, and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	09/13/2018 23:00	09/14/2018 02:00	3.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a sample pump failure.	The I&E technician repaired the pump, replacing the diaphragm and valves, and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	10/19/2018 04:30	10/20/2018 10:00	30.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a failed calibration.	The I&E Technician recalibrated and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	11/05/2018 09:36	11/05/2018 11:34	1.00	Monitor Equipment Malfunction	Malfunction	The analyzer was placed in maintenance mode due to a sample pump failure.	The I&E technician rebuilt the sample pump, and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	11/16/2018 09:20	11/16/2018 11:30	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	11/26/2018 08:37	11/26/2018 11:42	2.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to complete project tie-ins.	The I&E technician proceeded with the RSR project tie-ins and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	11/27/2018 09:00	11/27/2018 16:00	7.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to complete project tie-ins.	The I&E technician proceeded with the RSR project tie-ins and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	11/28/2018 07:40	11/28/2018 12:00	4.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a linearity test.	The I&E technician performed a linearity test and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	12/06/2018 10:36	12/06/2018 12:22	1.00	Other Known Cause	Other	The analyzer was placed in maintenance mode to perform a CGA.	The I&E technician performed a CGA and returned the analyzer to service.	No changes were made in operation of the emission control system.
FL-404	CEMS	SO ₂	12/27/2018 08:05	12/27/2018 13:15	5.00	Other Known Cause	Other	The analyzer was placed in maintenance mode due to plugged probe and pump.	The I&E technician replaced the filter and rebuilt the pump. The sample system would not heat up. The pressure switch was reset and the system began to heat up, and the analyzer was returned to service.	No changes were made in operation of the emission control system.
Total					65.00					

HollyFrontier Navajo Refining LLC
Artesia, NM RefineryNSPS Subpart Ja
Periodic Report GOHT Flare (FL-0404)FL-404 500 lb SO₂ Excess Emission

CEMS Monitored Excess Emissions

Affected Source Name	Monitor Type	Monitored HAP or Gas	Excess Emissions Start Date and Time	Excess Emissions End Date and Time	Duration of Deviation (hours)	Excess Emissions Occurred During Period of SSM (Y/N)	Duration of excess emissions in reporting period due to:	Brief Description of Nature and Cause of Excess Emission	Corrective Action Taken or Preventative Measure Adopted	Discharges Per 60.108a(d)(5)
FL-404	CEMS	SO ₂	09/24/2018 01:00	09/24/2018 11:00	10.00	N	Other Known Cause	The electrical power supply from a third party substation to the Artesia Refinery was interrupted for approximately 3 hours, resulting in the shutdown of several process units, as well as several pumps, compressors and other electric pieces of equipment within the refinery. Off-gas was continued to be produced some time after the power outage occurred and the process units shut down. Without the electrical power to operate amine contactors and H ₂ S strippers, the H ₂ S concentration in the FGS and Amine Unit increased. The flaring associated with the units' shutdown and subsequent startup resulted in emissions from the GOH Flare to exceed 500 lbs. SO ₂ in a 24-hour period.	The electrical supply was promptly shifted to four additional substations that provide the electrical power to other sections of the refinery, allowing the electrical power to be restored. The frequency of preventative maintenance activities performed by the third-party electrical substation was increased from semiannual to monthly basis.	See Attached Event Record: "#25-2018-10-08 NSPS Ja RCA SO2 FL-0404".
FL-404	CEMS	SO ₂	09/28/2018 23:00	09/29/2018 23:00	24.00	Y	Startup	Planned shutdown of the Mild Hydrocracker (MHC) unit for catalyst replacement in the Guard Bed Reactor. The unit shutdown procedure was followed. During the shutdown and decontamination of the MHC, pressure normally builds up in the reactors and the fractionator, which has to be relieved to the flare.	The unit shutdown procedure was followed.	See Attached Event Record: "#26-2018-10-25 NSPS Ja RCA SO2 FL-0404".
					Total	34.00				

NSPS SUBPART Ja ROOT CAUSE ANALYSIS
Reporting Period: July-December 2018



HOLLYFRONTIER

P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365

DATE: August 28, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from the North Flare (FL-0400) per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 06/16/2018, the North Flare (FL-0400) began exceeding its baseline threshold by >500,000 scfd while flaring. The excess flaring was caused by the SRU (Unit 31) thermal reactor (D-3100) being taken out of service to repair a crack near the acid gas inlet nozzle to the rear chamber. Rates were decreased through the area to move the acid and sour water gas to the other SRU (Unit 30).

At approximately 15:00 on 07/12/2018 FL-0400 began exceeding its baseline threshold until approximately 18:00 on 07/13/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 07/12/2018 15:00

Event Duration: 07/12/2018 15:00 – 07/13/2018 18:00; 28 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
North Flare (FL-0400)	1,575,530	07/12/2018 15:00 – 07/12/2018 23:59	735,530
		07/13/2018 00:00 – 07/13/2018 18:59	840,000

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): North Flare (FL-0400)

Date of Discharge: 07/12/2018

Duration of Discharge: 28 hours

ROOT CAUSE ANALYSIS

Unexpected shutdown of the SRU 2 (Unit 31) caused excess flaring to the North Plant Flare (FL-0400).

CORRECTIVE ACTION ANALYSIS

Unit feed rates were reduced so that excess flaring was minimized.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Unit feed rates reduced	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



HOLLYFRONTIER

#2-2018-08-28 FL-0400 NSPS Ja Flow RCA

Page 1 of 2

HollyFrontier Navajo Refining LLC

P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365

DATE: August 28, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from the North Flare (FL-0400) per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 07/16/2018, the North Flare (FL-0400) began exceeding its baseline threshold by >500,000 scfd while flaring. The excess flaring was caused by the fuel balance drum (D-19) receiving excess sweet gas from various units throughout the facility.

At approximately 18:00 on 07/16/2018 FL-0400 began exceeding its baseline threshold until approximately 17:00 on 07/17/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 07/16/2018 18:00

Event Duration: 07/16/2018 18:00 – 07/17/2018 17:00; 24 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
North Flare (FL-0400)	1,133,110	07/16/2018 18:00 – 07/16/2018 23:59	342,780
		07/17/2018 00:00 – 07/17/2018 17:59	790,330

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

HFNA-000003247

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): North Flare (FL-0400)

Date of Discharge: 07/16/2018

Duration of Discharge: 24 hours

ROOT CAUSE ANALYSIS

The fuel balance drum (D-19) reduced venting from the vessel to the flare.

CORRECTIVE ACTION ANALYSIS

Unit feed rates were reduced so that excess flaring was minimized.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
D-19 reduced venting	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365

DATE: October 8, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from the North Flare (FL-0400) per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 09/24/2018, the North Flare (FL-0400) began exceeding its baseline threshold by >500,000 scfd while flaring. The Naphtha Hydrodesulfurization Unit (Unit 13) experienced a flange leak causing the Splitter Distillate Drum (D-44) and the Product Separator Drum (D-58) to empty to the flare so that repairs could be made. The unit was brought back online with additional malfunctions (EIV 13HIS181) and was shut-down again to repair EIV. The unit was brought back into service on 09/26/2018 with no additional issues. Steps were taken to prevent excess emissions during startup/shutdown/startup. Scavenger was injected to reduce H₂S in the flare.

At approximately 03:00 on 09/24/2018 FL-0400 began exceeding its baseline threshold until approximately 18:00 on 09/27/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/24/2018 03:00

Event Duration: 09/24/2018 03:00 – 09/27/2018 18:00; 88 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
North Flare (FL-0400)	5,210,970	09/24/2018 03:00 – 09/24/2018 23:59	1,712,370
		09/25/2018 00:00 – 09/25/2018 23:59	1,321,350
		09/26/2018 00:00 – 09/26/2018 23:59	1,326,530
		09/27/2018 00:00 – 09/27/2018 18:00	850,720

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): North Flare (FL-0400)

Date of Discharge: 09/24/2018

Duration of Discharge: 88 hours

ROOT CAUSE ANALYSIS

The Naphtha Hydrodesulfurization Unit (Unit 13) experienced a flange leak causing the Splitter Distillate Drum (D-44) and the Product Separator Drum (D-58) to empty to the flare so that repairs could be made. The unit was brought back online with additional malfunctions (EIV 13HIS181) and was shutdown again to repair EIV. The unit was brought back into service on 09/26/2018 with no additional issues.

CORRECTIVE ACTION ANALYSIS

Steps were taken to repair the flange and then the EIV.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Repairs made	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.

**DATE:** October 8, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for SO₂ from Flares per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

Unexpected shutdown of the Naphtha Hydrotreating Unit (Unit 13) due to a flange leak. This caused the Naphtha Separator (D-0058) and Splitter Distillate (D-0044) to vent to the North Flare (FL-0400), resulting in emissions above the reporting threshold.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/24/2018 07:00

Event Duration: 09/24/2018 07:00 – 09/27/2018 18:00; 69 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	24-hour Period	Quantity of Gas Discharged over Event Duration (dscf)
North Flare FL-0400	09/24/2018 07:00 – 09/24/2018 22:59	1,026,840
	09/25/2018 14:00 – 09/25/2018 23:59	633,000
	09/26/2018 00:00 – 09/26/2018 23:59	1,326,530
	09/27/2018 00:00 – 09/27/2018 18:59	850,720

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Date	Number of hours	Hourly Average Measured Total Sulfur Concentration During Event (ppm) {60.108a(c)(6)(iv)}
09/24/2018 07:00 – 09/24/2018 22:59	16	1,193
09/25/2018 14:00 – 09/25/2018 23:59	10	23,781
09/26/2018 00:00 – 09/26/2018 23:59	24	6,175
09/27/2018 00:00 – 09/27/2018 18:59	19	248

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Affected Facility	Cumulative Quantity of H ₂ S Released (pounds)	Cumulative Quantity of SO ₂ Released (pounds)
North Flare (FL-0400)	27	5,055

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

The flange was repaired. The gas was safely combusted in a steam-assisted flare and scavenger was injected into the system. Maintenance worked quickly to determine what steps needed to be taken to reduce excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): North Flare (FL-0400)

Date of Discharge: 09/24/2018

Duration of Discharge: 69 hours

ROOT CAUSE ANALYSIS

Unexpected shutdown of the Naphtha Hydrotreating Unit (Unit 13) due to a flange leak. This caused the Naphtha Separator (D-0058) and Splitter Distillate (D-0044) to vent to the North Flare (FL-0400), resulting in emissions above the reporting threshold.

CORRECTIVE ACTION ANALYSIS

The leak was repaired.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
The leak was repaired	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.

**DATE:** November 26, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for SO₂ from Flares per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

Process imbalance in the NHU debutanizer system, which included a pressure increase in the splitter overhead system, and resulted in venting of overhead gases with high sulfur (S) content from the Splitter Distillate Drum (D-0044). The associated flare emissions exceeded 500 pounds of sulfur dioxide (SO₂) on a 24-hour basis.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 11/08/2018 18:00

Event Duration: 11/08/2018 18:00 – 11/09/2018 17:00; 24 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	24-hour Period	Quantity of Gas Discharged over Event Duration (dscf)
North Flare FL-0400	11/08/2018 18:00 – 11/09/2018 17:00	1,036,940

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Date	Number of hours	Hourly Average Measured Total Sulfur Concentration During Event (ppm) {60.108a(c)(6)(iv)}
11/08/2018 18:00 – 11/09/2018 17:00	24	3,439.8

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6)(vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6)(vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the

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cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Affected Facility	Cumulative Quantity of H ₂ S Released (pounds)	Cumulative Quantity of SO ₂ Released (pounds)
North Flare (FL-0400)	27	5,055

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare and scavenger was injected into the system. Maintenance worked quickly to determine what steps needed to be taken to reduce excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): North Flare (FL-0400)

Date of Discharge: 11/08/2018

Duration of Discharge: 24 hours

ROOT CAUSE ANALYSIS

Process imbalance in the NHU debutanizer system, which included a pressure increase in the splitter overhead system, and resulted in venting of overhead gases with high sulfur (S) content from the Splitter Distillate Drum (D-0044). The associated flare emissions exceeded 500 pounds of sulfur dioxide (SO₂) on a 24-hour basis.

CORRECTIVE ACTION ANALYSIS

After the unit shutdown, the flat cap in X-0341 was tightened, thereby eliminating the leak. The Naphtha Hydrotreating Unit (NHU, Unit 13) started up and was returned to normal operation as expeditiously as possible.

Additional corrective actions may be implemented pending the outcome of the above-described further root cause analysis for the Feed Preheater (X-0342), and an update will be submitted within thirty days after completion of the implementation of any such additional corrective actions.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
The flat cap in X-0341.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.

**DATE:** December 27, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for SO₂ from Flares per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

Process imbalance in the NHU debutanizer system, which included a pressure increase in the splitter overhead system, and resulted in venting of overhead gases with high sulfur (S) content from the Splitter Distillate Drum (D-0044). The associated flare emissions exceeded 500 pounds of sulfur dioxide (SO₂) on a 24-hour basis.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 12/07/2018 22:00

Event Duration: 12/07/2018 22:00 – 12/09/2018 09:00; 36 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	24-hour Period	Quantity of Gas Discharged over Event Duration (dscf)
North Flare (FL-0400)	12/07/2018 22:00 – 12/07/2018 23:59	83,470
	12/08/2018 00:00 – 12/08/2018 23:59	884,020
	12/09/2018 00:00 – 12/09/2018 09:59	352,770

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Date	Number of hours	Hourly Average Measured Total Sulfur Concentration During Event (ppm) {60.108a(c)(6)(iv)}
12/07/2018 22:00 – 12/07/2018 23:59	2	36,289
12/08/2018 00:00 – 12/08/2018 23:59	24	3,114
12/09/2018 00:00 – 12/09/2018 09:59	10	790

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

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60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Affected Facility	Cumulative Quantity of H ₂ S Released (pounds)	Cumulative Quantity of SO ₂ Released (pounds)
North Flare (FL-0400)	6.06	1,130

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare and scavenger was injected into the system. Maintenance worked quickly to determine what steps needed to be taken to reduce excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): North Flare (FL-0400)

Date of Discharge: 12/07/2018

Duration of Discharge: 36 hours

ROOT CAUSE ANALYSIS

Process imbalance in the NHU debutanizer system, which included a pressure increase in the splitter overhead system, and resulted in venting of overhead gases with high sulfur (S) content from the Splitter Distillate Drum (D-0044). The associated flare emissions exceeded 500 pounds of sulfur dioxide (SO₂) on a 24-hour basis.

CORRECTIVE ACTION ANALYSIS

The standard procedure for unit shutdown was followed. After the unit shutdown was completed, Feed Preheater (X-0342) was by-passed for inspection and cleaning, as needed. After the exchanges was isolated and by-passed, the Naphtha Hydrotreating Unit (NHU, Unit 13) was started up and was returned to normal operation as expeditiously as possible. Additional corrective actions may be implemented pending the outcome of the above-described further root cause analysis for the Feed Preheater (X-0342), and an update will be submitted within thirty days after completion of the implementation of any such additional corrective actions.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Repairs were made.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



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DATE: August 29, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from the FCCU Flare (FL-0402) per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 07/21/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) had a loss of compressor (C-0945) for the Lift Air Blower. This caused a shut-down of the FCC unit. Losing the compressor causes swing in the unit due to an air imbalance. Emergency steam kicks in to prevent plugging and causes back pressure in the Main Air Blower. Safeguards that are in place cause a shut-down of the unit automatically to prevent a more significant event. Instrument techs, electricians and maintenance were called out to check systems and found no known causes. A malfunction of the Bently Nevada Vibration Relay is believed to be the cause of the flaring event but further investigations are pending.

At approximately 18:00 on 07/22/2018 FL-0402 began exceeding its baseline limit until approximately 17:00 on 07/23/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 07/22/2018 18:00

Event Duration: 07/22/2018 18:00 – 07/23/2018 17:00; 24 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
FCCU Flare (FL-0402)	697,930	07/22/2018 18:00 – 07/22/2018 23:59 07/23/2018 00:00 – 07/23/2018 17:00	526,320 171,610

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Repairs were made to C-0952 to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): FCCU Flare (FL-0402)

Date of Discharge: 07/22/2018

Duration of Discharge: 24 hours

ROOT CAUSE ANALYSIS

On 07/21/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) had a loss of compressor (C-0945) compressor for the Lift Air Blower. This caused a shutdown of the FCC unit. Losing the compressor causes swing in the unit due to an air imbalance. Emergency steam kicks in to prevent plugging and causes back pressure in the Main Air Blower. Safeguards that are in place cause a shut-down of the unit automatically to prevent a more significant event.

CORRECTIVE ACTION ANALYSIS

The root cause analysis indicates that vibration of the C-0945 Lift Air Blower caused the Bently Nevada Vibration relay to lose electrical contact, which in turn caused the loss of the Lift Air Blower.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Electricians reset the tripped relay after the Lift Air Blower tripped.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



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DATE: September 5, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from the FCCU Flare (FL-0402) per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 08/27/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) began exceeding its baseline limit. This was due to scheduled maintenance for repairs of the Alky Flare (FL-0403). Charges were reduced to reduce excess flow flaring until the exceedance could be minimized.

At approximately 03:00 on 08/27/2018 FL-0402 began exceeding its baseline limit until approximately 00:00 on 09/03/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 08/27/2018

Event Duration: 08/27/2018 03:00 – 09/03/2018 00:00; 166 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
FCCU Flare (FL-0402)	38,526,300	08/27/2018 03:00 – 08/27/2018 23:59	6,109,150
		08/28/2018 00:00 – 08/28/2018 23:59	5,526,610
		08/29/2018 00:00 – 08/29/2018 23:59	6,529,930
		08/30/2018 00:00 – 08/30/2018 23:59	6,520,590
		08/31/2018 00:00 – 08/31/2018 23:59	6,528,810
		09/01/2018 00:00 – 09/01/2018 23:59	6,275,250
		09/02/2018 00:00 – 09/02/2018 23:59	1,025,760
		09/03/2018 00:00 – 09/03/2018 00:59	10,200

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): FCCU Flare (FL-0402)

Date of Discharge: 08/27/2018

Duration of Discharge: 166 hours

ROOT CAUSE ANALYSIS

On 08/27/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) began exceeding its baseline limit. This was due to scheduled maintenance for repairs of the Alky Flare (FL-0403).

CORRECTIVE ACTION ANALYSIS

Charges were reduced to drop excess flow flaring until the exceedance could be minimized.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Reduced charges	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



P.O. Box 159
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DATE: October 8, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from the FCCU Flare (FL-0402) per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 09/05/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) Flare began exceeding its baseline threshold. This was due to the loss of a compressor (C-0945) for the Lift Air Blower. This caused a shutdown of the FCC Unit. Losing C-0945 causes a swing in the Unit due to an air imbalance. Emergency steam kicked in to prevent plugging and caused back pressure in the Main Air Blower. Safeguards in place caused a shut-down of the unit automatically to prevent a more significant event. Instrument technicians, electricians, and maintenance checked systems and found that C-0945 had unexpectedly tripped.

At approximately 04:00 on 09/05/2018 FL-0402 began exceeding its baseline threshold until approximately 04:00 on 09/06/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/05/2018

Event Duration: 09/05/2018 04:00 – 09/06/2018 04:00; 25 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
FCCU Flare (FL-0402)	1,095,600	09/05/2018 04:00 – 09/05/2018 23:59 09/06/2018 00:00 – 09/06/2018 04:59	1,047,600 48,000

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6)(vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Repairs were made to C-0952 to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): FCCU Flare (FL-0402)

Date of Discharge: 09/05/2018

Duration of Discharge: 25 hours

ROOT CAUSE ANALYSIS

On 09/05/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) Flare began exceeding its baseline limit. This was due to an unexpected trip of C-0945. A nuisance trip of the GE Multilins 369 motor protection relay, a component of the C-0945 Lift Air Blower (see below) caused the loss of the Lift Air Blower. The loss of C-0945 Lift Air Blower caused a shutdown of the FCC Unit.

CORRECTIVE ACTION ANALYSIS

Electricians replaced the GE Multilins 369 motor protection relay.

A Preventative Maintenance work order has been generated so this relay will be inspected annually.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Electricians replaced the GE Multilins 369 motor protection relay. A Preventative Maintenance work order has been generated so this relay will be inspected annually.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected flare that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365

DATE: October 25, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from the FCC Flare (FL-0402) baseline per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 09/25/2018, the FCC Flare (FL-0402) began exceeding its baseline threshold. This was due to a power outage that affected Units 33 (Diesel Hydrotreater), 44 (Distillate Hydrodesulfurization), 45 (GOH), 70 (CCR), 10 (FCC), and the North Plant. The affected units ended up causing excess flaring to the FCC Flare. The outage lasted approximately 2-3 hours.

At approximately 14:00 on 09/25/2018 FL-0402 began exceeding its alternative baseline threshold until approximately 12:00 on 09/26/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/25/2018 14:00

Event Duration: 09/25/2018 14:00 – 09/26/2018 12:00; 23 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
FCC Flare (FL-0402)	642,000	09/25/2018 13:00 – 09/25/2018 23:59	496,340
		09/26/2018 00:00 – 09/26/2018 12:59	145,660

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): FCC Flare (FL-0402)

Date of Discharge: 09/25/2018

Duration of Discharge: 23 hours

ROOT CAUSE ANALYSIS

A power outage led to an excess of flaring.

CORRECTIVE ACTION ANALYSIS

Power was restored for the Plant.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Power was restored for the plant	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.

**DATE:** June 18, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for SO₂ from Flares per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 07/21/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) had a loss of compressor (C-0945) compressor for the Lift Air Blower. This caused a shutdown of the FCC unit. Losing the compressor causes swing in the unit due to an air imbalance. Emergency steam kicked in to prevent plugging and causes back pressure in the Main Air Blower. Safeguards in place caused a shut-down of the unit automatically to prevent a more significant event. Instrument techs, electricians and maintenance were called out to check systems and found no known causes. A malfunction of the Bently Nevada Vibration Relay is believed to be the cause of the flaring event but further investigations are pending.

At approximately 03:00 on 07/22/2018 FL-0402 began exceeding its baseline limit until approximately 18:00 on 07/23/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 07/22/2018 03:00

Event Duration: 07/22/2018 03:00 – 07/23/2018 18:00; 40 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	24-hour Period	Quantity of Gas Discharged over Event Duration (dscf)
FCC Flare	07/22/2018 03:00 – 07/22/2018 23:59	997,220
FL-0402	07/23/2018 00:00 – 07/23/2018 18:00	181,090

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Date	Number of hours	Hourly Average Measured Total Sulfur Concentration During Event (ppm) {60.108a(c)(6)(iv)}
07/22/2018 03:00 – 07/22/2018 23:59	21	23,387.80
07/23/2018 00:00 – 07/23/2018 18:00	19	194.92

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(c)(4).

Not applicable to this event.

501 E. Main
 Artesia, NM 88201
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60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Affected Facility	Cumulative Quantity of H ₂ S Released (pounds)	Cumulative Quantity of SO ₂ Released (pounds)
FCC (FL-0402)	16.50	3,074.95

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Maintenance worked quickly to determine what steps needed to be taken to reduce excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): FCC Flare (FL-0402)
 Date of Discharge: 07/22/2018 – 07/23/2018
 Duration of Discharge: 40 hours

ROOT CAUSE ANALYSIS

On 07/21/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) had a loss of compressor (C-0945) compressor for the Lift Air Blower. This caused a shutdown of the FCC unit. Losing the compressor causes swing in the unit due to an air imbalance. Emergency steam kicks in to prevent plugging and causes back pressure in the Main Air Blower. Safeguards that are in place cause a shut-down of the unit automatically to prevent a more significant event.

CORRECTIVE ACTION ANALYSIS

Weekly monitoring data indicated a change in the vibration noise of the C-0949 gear box. Based on our inspection, the gear teeth were damaged due to unknown causes. Our review shows that the gear box has run for approximately 20 years and had a preventative maintenance schedule for inspection during every turn-around. The last complete inspection was done 02/2017 during our last major turn-around. The oil filters were change the week of 05/07/2018.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Repairs to C-0949 gear box	Yes	N/A	N/A

501 E. Main
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60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.

**DATE:** September 4, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for SO₂ from Flares per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 08/27/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) began exceeding its SO₂ limit. This was due to scheduled maintenance for repairs of the Alky Flare (FL-0403). Charges were reduced to reduce SO₂ flaring until the exceedance could be minimized.

At approximately 09:00 on 08/27/2018 FL-0402 began exceeding its SO₂ limit until approximately 09:00 on 08/31/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 08/27/2018 09:00

Event Duration: 08/27/2018 09:00 – 08/31/2018 09:00; 97 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	24-hour Period	Quantity of Gas Discharged over Event Duration (dscf)
FCC Flare FL-0402	08/27/2018 09:00 – 08/27/2018 23:59	4,703,060
	08/28/2018 00:00 – 08/28/2018 23:59	5,526,610
	08/29/2018 00:00 – 08/29/2018 23:59	6,529,930
	08/30/2018 00:00 – 08/30/2018 23:59	6,520,590
	08/31/2018 00:00 – 08/31/2018 09:59	2,723,710

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Date	Number of hours	Hourly Average Measured Total Sulfur Concentration During Event (ppm) {60.108a(c)(6)(iv)}
08/27/2018 09:00 – 08/27/2018 23:59	15	1,387
08/28/2018 00:00 – 08/28/2018 23:59	24	1,193
08/29/2018 00:00 – 08/29/2018 23:59	24	2,382
08/30/2018 00:00 – 08/30/2018 23:59	24	1,419
08/31/2018 00:00 – 08/31/2018 09:59	10	227

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(c)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Affected Facility	Cumulative Quantity of H ₂ S Released (pounds)	Cumulative Quantity of SO ₂ Released (pounds)
FCC (FL-0402)	34.0	6,346.5

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Maintenance worked quickly to determine what steps needed to be taken to reduce excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): FCC Flare (FL-0402)

Date of Discharge: 08/27/2018

Duration of Discharge: 97 hours

ROOT CAUSE ANALYSIS

On 08/27/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) began exceeding its SO₂ limit. This was due to scheduled maintenance for repairs of the Alky Flare (FL-0403).

CORRECTIVE ACTION ANALYSIS

Charges were reduced to drop SO₂ flaring until the exceedance could be minimized.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Charges were reduced	Yes	N/A	N/A

501 E. Main
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(575) 748-3311

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.

**DATE:** October 8, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for SO₂ from Flares per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 09/04/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) began exceeding its SO₂ limit. This was due to the loss of a compressor (C-0945) for the Lift Air Blower. This caused a shutdown of the FCC Unit. Losing C-0945 caused a swing in the Unit due to an air imbalance. Emergency steam kicked in to prevent plugging and caused back pressure in the Main Air Blower. Safeguards in place caused a shut-down of the unit automatically to prevent a more significant event. Instrument technicians, electricians, and maintenance checked systems and found that C-0945 had unexpectedly tripped.

At approximately 16:00 on 09/04/2018 FL-0402 began exceeding its SO₂ limit until approximately 05:00 on 09/06/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/04/2018 16:00

Event Duration: 09/04/2018 16:00 – 09/06/2018 05:00; 38 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	24-hour Period	Quantity of Gas Discharged over Event Duration (dscf)
FCC Flare FL-0402	09/04/2018 16:00 – 09/04/2018 23:59	173,250
	09/05/2018 00:00 – 09/05/2018 23:59	1,110,860
	09/06/2018 00:00 – 09/06/2018 05:59	58,850

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Date	Number of hours	Hourly Average Measured Total Sulfur Concentration During Event (ppm) {60.108a(c)(6)(iv)}
09/04/2018 16:00 – 09/04/2018 23:59	8	28,909
09/05/2018 00:00 – 09/05/2018 23:59	24	5,372
09/06/2018 00:00 – 09/06/2018 05:59	6	776

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Affected Facility	Cumulative Quantity of H ₂ S Released (pounds)	Cumulative Quantity of SO ₂ Released (pounds)
FCC (FL-0402)	12.5	2,337

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare and scavenger was injected into the system. Maintenance worked quickly to determine what steps needed to be taken to reduce excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): FCC Flare (FL-0402)

Date of Discharge: 09/04/2018

Duration of Discharge: 38 hours

ROOT CAUSE ANALYSIS

On 09/04/2018, the Fluid Catalytic Cracking Unit (FCC, Unit 10) began exceeding its SO₂ limit. This was due to the loss of a compressor (C-0945) for the Lift Air Blower. A root cause analysis was conducted which determined that the probable cause of the loss of the blower was a nuisance trip of the GE Multilins 369 motor protection relay, a component of the C-0945 Lift Air Blower that was in use beyond its recommended life. The root cause of the trip is mechanical fatigue.

CORRECTIVE ACTION ANALYSIS

Electricians replaced the GE Multilins 369 motor protection relay.

A Preventative Maintenance work order has been generated so this relay will be inspected annually.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
C-0945 was restarted	Yes	N/A	N/A

60.108a(c)(6)(xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.

**DATE:** October 25, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for SO₂ from Flares per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 09/24/2018, the FCC Flare (FL-0402) began exceeding its SO₂ threshold. This was due to a power outage that affected Units 33 (Diesel Hydrotreater), 44 (Distillate Hydrodesulfurization), 45 (GOH), 70 (CCR), 10 (FCC), and the North Plant. The flaring associated with the units's shutdown and subsequent startup resulted in emissions from the FCC Flare (FL-0402) to exceed 500 lbs SO₂ in a 24-hour period.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/25/2018 14:00

Event Duration: 09/25/2018 14:00 – 09/26/2018 14:00; 25 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	24-hour Period	Quantity of Gas Discharged over Event Duration (dscf)
FCC Flare FL-0402	09/25/2018 14:00 – 09/26/2018 14:59	664,520

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Date	Number of hours	Hourly Average Measured Total Sulfur Concentration During Event (ppm) {60.108a(c)(6)(iv)}
09/25/2018 14:00 – 09/25/2018 23:59	10	75,105
09/26/2018 00:00 – 09/26/2018 14:59	15	3,014

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

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60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Affected Facility	Cumulative Quantity of H ₂ S Released (pounds)	Cumulative Quantity of SO ₂ Released (pounds)
FCC Flare (FL-0402)	7.0	1,297

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare and scavenger was injected into the system. Maintenance worked quickly to determine what steps needed to be taken to reduce excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(c).

Affected Facility(s): FCC Flare (FL-0402)

Date of Discharge: 09/25/2018

Duration of Discharge: 25 hours

ROOT CAUSE ANALYSIS

An unexpected power outage affected Units 33 (Diesel Hydrotreater), 44 (Distillate Hydrodesulfurization), 45 (GOH), 70 (CCR), 10 (FCC), and the North Plant. The affected units ended up causing excess SO₂ flaring to the FCC Flare. The outage lasted approximately 2-3 hours.

CORRECTIVE ACTION ANALYSIS

The electrical supply was promptly shifted to four additional substations that provide the electrical power to other sections of the refinery, allowing the electrical power to be restored. The frequency of preventative maintenance activities performed by the third-party electrical substation was increased from semiannual to monthly basis.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Power was restored and units restarted.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365

DATE: August 28, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from the Alky Flare (FL-0403) per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 08/22/2018, the Alky Flare (FL-0403) began exceeding its baseline threshold by >500,000 scfd while flaring. The excess flaring was caused by the Propane Treater (D-0629) being depressurized to the flare for scheduled maintenance. D-629 requires replacement of media so that the propane can be neutralized prior to being sent to storage. Flaring continued until D-629 reached no pressure and maintenance could work on the vessel.

At approximately 11:00 on 08/22/2018 FL-0403 began exceeding its baseline threshold until approximately 22:00 on 08/22/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 08/11/2018 11:00

Event Duration: 08/11/2018 11:00 – 08/11/2018 23:00; 13 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
Alky Flare (FL-0403)	270,230	08/11/2018 11:00 – 08/11/2018 22:59	270,230

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): Alky Flare (FL-0403)

Date of Discharge: 08/11/2018

Duration of Discharge: 12 hours

ROOT CAUSE ANALYSIS

Scheduled maintenance on the propane treater (D-0629) resulted in excess flaring during depressurization of the vessel.

CORRECTIVE ACTION ANALYSIS

Maintenance finished depressurization of the vessel and excess flaring was reduced.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Depressurization finished	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365

DATE: October 5, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from the Alky Flare (FL-0403) per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 09/18/2018, the Alky Flare (FL-0403) began exceeding its baseline threshold by >500,000 scfd while flaring. The excess flaring was caused by non-condensables from the depropanizer (W-0079) being vented to the flare. Flaring continued until W-79 no longer had condensables in the system.

At approximately 18:00 on 09/18/2018 FL-0403 began exceeding its baseline threshold until approximately 00:00 on 09/21/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/18/2018 18:00

Event Duration: 09/18/2018 18:00 – 09/21/2018 00:00; 55 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
Alky Flare (FL-0403)	1,383,800	09/18/2018 18:00 – 09/18/2018 23:59	177,090
		09/19/2018 00:00 – 09/19/2018 23:59	594,430
		09/20/2018 00:00 – 09/20/2018 23:59	589,590
		09/21/2018 00:00 – 09/21/2018 00:59	22,690

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): Alky Flare (FL-0403)

Date of Discharge: 09/18/2018

Duration of Discharge: 55 hours

ROOT CAUSE ANALYSIS

W-79 began venting non-condensables to FL-0403.

CORRECTIVE ACTION ANALYSIS

W-79 completed venting non-condensables and flaring was minimized.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
W-79 completed venting non-condensables and flaring stopped.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365

DATE: August 25, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from GOHT Flare (FL-0404) alternative baseline per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

Hydrogen venting to the GOH Flare (FL-0404) during startup of the Hydrogen Plant No.1 (Unit 63), and increased rate in the CCR contributed to the increase of hydrogen flow directed to the flare.

At approximately 16:00 on 07/19/2018 FL-0404 began exceeding its alternative baseline threshold until approximately 02:00 on 07/20/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 07/19/2018 16:00

Event Duration: 07/19/2018 16:00 – 07/20/2018 02:00; 10 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
GOH Flare (FL-0404) Alternative Baseline	3,840,640	07/19/2018 16:00 – 07/20/2018 02:00	3,840,640

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(c).

Affected Facility(s): GOH Flare (FL-0404)

Date of Discharge: 07/19/2018

Duration of Discharge: 10 hours

ROOT CAUSE ANALYSIS

Hydrogen venting to the GOH Flare (FL-0404) during startup of the Hydrogen Plant No.1 (Unit 63), and increased rate in the CCR contribute to the increase of hydrogen flow directed to the flare.

CORRECTIVE ACTION ANALYSIS

The startup of Unit 63 was completed and the production rate in the hydrogen Plant No.2 (Unit 64) was dialed back to minimum rate, reducing the hydrogen flow vented to the flare.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Unit 63 startup was completed.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365

DATE: October 25, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from GOHT Flare (FL-0404) alternative baseline per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 07/23/2018, the GOH Flare (FL-0404) began exceeding its alternative baseline threshold. This was due to Unit 70, the Continuous Catalytic Reformer (CCR) being run at full rates and Unit 33, the Diesel Hydrotreater (DHT) running at reduced rates. The CCR produces additional hydrogen that, under normal operating conditions, the DHT is able to use. Due to the reduced rates the excess hydrogen was flared.

At approximately 02:00 on 07/23/2018 FL-0404 began exceeding its alternative baseline threshold until approximately 19:00 on 07/23/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 07/23/2018 02:00

Event Duration: 07/23/2018 02:00 – 07/23/2018 19:00; 18 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
GOH Flare (FL-0404) Alternative Baseline	5,888,970	07/23/2018 02:00 – 07/23/2018 19:59	5,888,970

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(c).

Affected Facility(s): GOH Flare (FL-0404)

Date of Discharge: 07/23/2018

Duration of Discharge: 18 hours

ROOT CAUSE ANALYSIS

Unit 70 was running at full capacity and Unit 33 was running at reduced rates. Excess hydrogen from Unit 70 wasn't able to be used in Unit 33 due to the reduced rates and had to be directed to the flare.

CORRECTIVE ACTION ANALYSIS

Unit 33 was able to process more hydrogen.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Unit 33 was able to process more hydrogen.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365

DATE: October 25, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from GOHT Flare (FL-0404) alternative baseline per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 07/23/2018, the GOH Flare (FL-0404) began exceeding its alternative baseline threshold. This was due to Unit 9, the Alkylation Unit being down for repairs. Because Unit 9 was down and there were decreased rates throughout the facility excess hydrogen was sent to the GOH Flare.

At approximately 18:00 on 08/27/2018 FL-0404 began exceeding its alternative baseline threshold until approximately 05:00 on 08/30/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 08/27/2018 18:00

Event Duration: 08/27/2018 18:00 – 08/30/2018 05:00; 60 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
GOH Flare (FL-0404)	23,764,370	08/27/2018 18:00 – 08/27/2018 23:59	2,493,880
Alternative Baseline		08/28/2018 00:00 – 08/28/2018 23:59	9,740,000
		08/29/2018 00:00 – 08/29/2018 23:59	9,445,270
		08/30/2018 00:00 – 08/30/2018 05:59	2,085,220

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): GOH Flare (FL-0404)

Date of Discharge: 08/27/2018

Duration of Discharge: 60 hours

ROOT CAUSE ANALYSIS

The GOH Flare exceeded its alternative baseline threshold due to Unit 9 being down for repairs. This led to excess hydrogen being routed to the GOH Flare.

CORRECTIVE ACTION ANALYSIS

Unit 9 repairs were finished and the unit was brought back online.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Unit 9 was brought back into service.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365

DATE: October 16, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from GOHT Flare (FL-0404) alternative baseline per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 09/23/2018, the GOH Flare (FL-0404) began exceeding its alternative baseline threshold. This was due to a power outage that affected Units 33 (Diesel Hydrotreater), 44 (Distillate Hydrodesulfurization), 45 (GOH), 70 (CCR), 10 (FCC), and the North Plant. The affected units ended up causing excess flaring to the GOH Flare. The outage lasted approximately 2-3 hours. While this was occurring, Unit 34 (Mild Hydrocracker) was shut down for a scheduled catalyst change. Unit 34 uses hydrogen in its process and when the unit is down Units 63 and 64 (Hydrogen Plants 1 and 2) are able to reduce their rates but not fully shut off for safety concerns. Because of this excess hydrogen was flared to FL-0404 leading to an exceedance of FL-0404's alternative baseline. Due to the nature of a catalyst change in Unit 34 the duration of the startup event and the quantity of excess hydrogen flared was greater than a typical startup event.

At approximately 20:00 on 09/23/2018 FL-0404 began exceeding its alternative baseline threshold until approximately 02:00 on 09/25/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/23/2018 20:00

Event Duration: 09/23/2018 20:00 – 09/25/2018 02:00; 31 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
GOH Flare (FL-0404)	13,448,870	09/23/2018 20:00 – 09/23/2018 23:59	2,385,850
Alternative Baseline		09/24/2018 00:00 – 09/24/2018 23:59	9,937,950
		09/25/2018 00:00 – 09/25/2018 02:59	1,125,070

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): GOH Flare (FL-0404)

Date of Discharge: 09/25/2018

Duration of Discharge: 31 hours

ROOT CAUSE ANALYSIS

A power outage along with a planned shutdown of Unit 34 led to an excess of flaring.

CORRECTIVE ACTION ANALYSIS

Power was restored for the Plant.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Power was restored for the plant	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



HOLLYFRONTIER

#21-2018-10-17 FL-0404 NSPS Ja Alt Baseline Flow RCA

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HollyFrontier Navajo Refining LLC

 P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365
DATE: October 17, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from GOHT Flare (FL-0404) alternative baseline per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 09/28/2018, the GOH Flare (FL-0404) began exceeding its alternative baseline threshold. This was due to Unit 34 being brought back in line following the planned catalyst change. Unit 34 uses hydrogen in its process and when the unit is down Units 63 and 64 (Hydrogen Plants 1 and 2) are able to reduce their rates but not fully shut off for safety concerns. Because of this excess hydrogen was flared to FL-0404 leading to an exceedance of FL-0404's alternative baseline. Due to the nature of a catalyst change in Unit 34 the duration of the startup event and the quantity of excess hydrogen flared was greater than a typical startup event.

At approximately 15:00 on 09/28/2018 FL-0404 began exceeding its alternative baseline threshold until approximately 05:00 on 09/29/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/28/2018 15:00

Event Duration: 09/28/2018 15:00 – 09/29/2018 05:00; 15 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
GOH Flare (FL-0404)	5,107,160	09/28/2018 15:00 – 09/28/2018 23:59	3,581,570
Alternative Baseline		09/29/2018 00:00 – 09/29/2018 05:59	1,525,590

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

HFNA-000003288

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): GOH Flare (FL-0404)

Date of Discharge: 09/28/2018

Duration of Discharge: 15 hours

ROOT CAUSE ANALYSIS

The startup of Unit 34 led to an excess of flaring.

CORRECTIVE ACTION ANALYSIS

Startup continued as planned and flaring was minimized as Unit 34 was brought back online.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Unit 34 was brought back online.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.

**DATE:** October 28, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for SO₂ from Flares per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 09/28/2018, the GOH Flare (FL-0404) began exceeding its SO₂ threshold. At approximately 03:00 on 09/28/2018, operations began a planned startup of the Mild Hydrocracker Unit (Unit 34) following a planned shutdown to replace the catalyst in the Guard Bed Reactor (D-3401). Due to low temperature and no steam in the Stripper (W-3401) all pressure built up in the Fractionator (W-3402) has nowhere to go except to be vented to the GOHT Flare (FL-0404).

At approximately 10:00 on 09/28/2018, operations fired the Reactor Charge Heater (H-3403) to begin heating up the process to normal operating temperature. Once H-3403 is running, it heats the temperature through the Reactors (D-3400/01/02), the Hot Oil Separator (D-3404), the Stripper (W-3401), and the Fractionator (W-3402).

At approximately 20:42 on 09/28/2018, the temperature in W-3401 was hot enough for steam to remain in vapor state and operations began adding stripping steam to W-3401. When stripping steam is added, the steam pushes the diesel light ends (naphtha) to the Stripper Overhead Accumulator (D-3411) and operations can send the process downstream to North Division units instead of flaring. Otherwise, the process is pushed to W-3402 and flaring begins. The flaring is caused by low temperature and no steam in (W-3401). Until temperature is hot enough for stripping steam to be added, all built up pressure in (W-3402) is vented to FL-0404.

At approximately 23:00 on 09/28/2018 FL-0404 began exceeding its SO₂ threshold until approximately 22:00 on 09/29/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/28/2018 23:00

Event Duration: 09/28/2018 23:00 – 09/29/2018 22:00; 24 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	24-hour Period	Quantity of Gas Discharged over Event Duration (dscf)
GOH Flare FL-0404	09/28/2018 23:00 – 09/29/2019 22:59	4,827,960

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Date	Number of hours	Hourly Average Measured Total Sulfur Concentration During Event (ppm) {60.108a(c)(6)(iv)}
09/28/2018 23:00 – 09/28/2018 23:59	1	4,130
09/29/2018 00:00 – 09/29/2018 22:59	23	437

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Affected Facility	Cumulative Quantity of H ₂ S Released (pounds)	Cumulative Quantity of SO ₂ Released (pounds)
GOHT Flare (FL-0404)	3.1	572

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare and scavenger was injected into the system. Maintenance worked quickly to determine what steps needed to be taken to reduce excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): GOH Flare (FL-0404)

Date of Discharge: 09/28/2018

Duration of Discharge: 24 hours

ROOT CAUSE ANALYSIS

The flaring is caused by low temperature and no steam in (W-3401). Until temperature is hot enough for stripping steam to be added, all built up pressure in (W-3402) is vented to FL-0404.

CORRECTIVE ACTION ANALYSIS

No corrective actions are planned. Operations continues to investigate alternatives to startup procedures for the purpose of identifying potential methods to reduce or eliminate the need to flare during unit startup.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date

501 E. Main
Artesia, NM 88201
(575) 748-3311

Temperature was hot enough for W-3401	Yes	N/A	N/A
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60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



P.O. Box 159
 Artesia, NM 88211
 (575) 365-8365

DATE: November 6, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from GOHT Flare (FL-0404) alternative baseline per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 10/29/2018, the GOH Flare (FL-0404) began exceeding its alternative baseline threshold. This was due to the Recycle Hydrogen Compressor (C-693) unexpectedly shutting down. Because of this shutdown excess hydrogen was sent to the flare. Water was found in the conduit for the seal oil level indication causing an issue with the electrical connections for the level transmitter of the seal oil tank. The seal was replaced for the conduit and the electrical wiring was terminated for the seal oil tank level.

At approximately 07:00 on 10/29/2018 FL-0404 began exceeding its alternative baseline threshold until approximately 02:00 on 10/30/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 10/29/2018 07:00

Event Duration: 10/29/2018 07:00 – 10/30/2018 02:00; 20 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
GOH Flare (FL-0404)	6,643,130	10/29/2018 06:00 – 10/29/2018 23:59	6,279,630
Alternative Baseline		10/30/2018 00:00 – 10/30/2018 02:59	363,500

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): GOH Flare (FL-0404)

Date of Discharge: 10/29/2018

Duration of Discharge: 20 hours

ROOT CAUSE ANALYSIS

The unexpected shutdown of C-693 led to an excess of flaring.

CORRECTIVE ACTION ANALYSIS

C-693 was repaired and brought back online.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
C-693 was repaired.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



HOLLYFRONTIER

DATE: December 6, 2018

RE: 40 CFR Part 60 Subpart Ja: Investigation for flow >500,000 scfd from GOHT Flare (FL-0404) alternative baseline per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

Between 11/19/18 and 11/26/2018, the GOH Flare (FL-0404) flow baseline reporting threshold was exceeded. During this period, discharges to the flare associated to the startup of the ROSE (Unit 25), the venting of hydrogen associated with an unexpected shutdown of the Diesel Hydrotreater (DHT, Unit 33) Recycle Hydrogen Compressor (C-0693), the planned shutdown of the Mild Hydrotreater (MHC) unit, and the unit startup of several process units after an unexpected interruption of electrical power to the refinery, contributed to increasing the flare flow above the reporting threshold.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 11/19/2018 16:00

Event Duration: 11/19/2018 16:00 – 11/26/2018 19: 370 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	Measured Quantity of Gas Discharged over Event Duration (dscf)	24-Hour Period	Quantity of Gas Discharged in 24-Hour Period (dscf)
GOH Flare (FL-0404) Alternative Baseline	27,060,572	11/19/2018 16:00– 11/20/2018 15:00	1,716,595
		11/20/2018 16:00– 11/21/2018 15:00	1,395,740
		11/21/2018 16:00– 11/22/2018 15:00	1,624,797
		11/22/2018 16:00– 11/23/2018 15:00	1,425,801
		11/23/2018 16:00– 11/24/2018 15:00	1,006,709
		11/24/2018 16:00– 11/25/2018 15:00	9,005,060
		11/25/2018 16:00– 11/26/2018 15:00	9,355,030
		11/26/2018 16:00– 11/26/2018 19:00	1,530,840

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Not applicable to this event.

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Not applicable to this event.

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare. Unit feed rates were reduced to minimize excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): GOH Flare (FL-0404)

Date of Discharge: 10/29/2018

Duration of Discharge: 20 hours

ROOT CAUSE ANALYSIS

Between 11/19/18 and 11/26/2018, the GOH Flare (FL-0404) flow baseline reporting threshold was exceeded. During this period, discharges to the flare associated to the startup of the ROSE (Unit 25), the venting of hydrogen associated with an unexpected shutdown of the Diesel Hydrotreater (DHT, Unit 33) Recycle Hydrogen Compressor (C-0693), the planned shutdown of the Mild Hydrotreater (MHC) unit, and the unit startup of several process units after an unexpected interruption of electrical power to the refinery, contributed to increasing the flare flow above the reporting threshold.

CORRECTIVE ACTION ANALYSIS

Units were restarted, C-693 was repaired returned online.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Units were restarted, C-693 was repaired returned online.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.

**DATE:** October 8, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for SO₂ from Flares per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 09/24/2018, the FCC Flare (FL-0402) began exceeding its SO₂ threshold. This was due to a power outage that affected Units 33 (Diesel Hydrotreater), 44 (Distillate Hydrodesulfurization), 45 (GOH), 70 (CCR), 10 (FCC), and the North Plant. The flaring associated with the units's shutdown and subsequent startup resulted in emissions from the GOH Flare (FL-0404) to exceed 500 lbs SO₂ in a 24-hour period.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/24/2018 01:00

Event Duration: 09/24/2018 01:00 – 09/24/2018 10:00; 10 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	24-hour Period	Quantity of Gas Discharged over Event Duration (dscf)
GOH Flare FL-0404	09/24/2018 01:00 – 09/24/2018 10:59	5,037,970

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Date	Number of hours	Hourly Average Measured Total Sulfur Concentration During Event (ppm) {60.108a(c)(6)(iv)}
09/24/2018 01:00 – 09/24/2018 10:59	10	244

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the

501 E. Main
 Artesia, NM 88201
 (575) 748-3311

cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Affected Facility	Cumulative Quantity of H ₂ S Released (pounds)	Cumulative Quantity of SO ₂ Released (pounds)
GOH Flare (FL-0404)	1.13	210.72

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare and scavenger was injected into the system. Maintenance worked quickly to determine what steps needed to be taken to reduce excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): GOH Flare (FL-0404)

Date of Discharge: 09/24/2018

Duration of Discharge: 10 hours

ROOT CAUSE ANALYSIS

An unexpected power outage affected Units 33 (Diesel Hydrotreater), 44 (Distillate Hydrodesulfurization), 45 (GOH), 70 (CCR), 10 (FCC), and the North Plant. The affected units ended up causing excess SO₂ flaring to the GOH Flare. The outage lasted approximately 2-3 hours.

CORRECTIVE ACTION ANALYSIS

The electrical supply was promptly shifted to four additional substations that provide the electrical power to other sections of the refinery, allowing the electrical power to be restored. The frequency of preventative maintenance activities performed by the third-party electrical substation was increased from semiannual to monthly basis.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date
Power was restored.	Yes	N/A	N/A

60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.

**DATE:** October 28, 2018**RE:** 40 CFR Part 60 Subpart Ja: Investigation for SO₂ from Flares per 60.103a(c)(1)

60.108a(c)(6)(i) A description of the discharge.

On 09/28/2018, the GOH Flare (FL-0404) began exceeding its SO₂ threshold. At approximately 03:00 on 09/28/2018, operations began a planned startup of the Mild Hydrocracker Unit (Unit 34) following a planned shutdown to replace the catalyst in the Guard Bed Reactor (D-3401). Due to low temperature and no steam in the Stripper (W-3401) all pressure built up in the Fractionator (W-3402) has nowhere to go except to be vented to the GOHT Flare (FL-0404).

At approximately 10:00 on 09/28/2018, operations fired the Reactor Charge Heater (H-3403) to begin heating up the process to normal operating temperature. Once H-3403 is running, it heats the temperature through the Reactors (D-3400/01/02), the Hot Oil Separator (D-3404), the Stripper (W-3401), and the Fractionator (W-3402).

At approximately 20:42 on 09/28/2018, the temperature in W-3401 was hot enough for steam to remain in vapor state and operations began adding stripping steam to W-3401. When stripping steam is added, the steam pushes the diesel light ends (naphtha) to the Stripper Overhead Accumulator (D-3411) and operations can send the process downstream to North Division units instead of flaring. Otherwise, the process is pushed to W-3402 and flaring begins. The flaring is caused by low temperature and no steam in (W-3401). Until temperature is hot enough for stripping steam to be added, all built up pressure in (W-3402) is vented to FL-0404.

At approximately 23:00 on 09/28/2018 FL-0404 began exceeding its SO₂ threshold until approximately 22:00 on 09/29/2018.

60.108a(c)(6)(ii) The date and time the discharge was first identified and the duration of the discharge.

Event Start Date & Time: 09/28/2018 23:00

Event Duration: 09/28/2018 23:00 – 09/29/2018 22:00; 24 hours

60.108a(c)(6)(iii) The measured or calculated cumulative quantity of gas discharged over the discharge duration. If the discharge duration exceeds 24 hours, record the discharge quantity for each 24-hour period. For a flare, record the measured or calculated cumulative quantity of gas discharged to the flare over the discharge duration. If the discharge exceeds 24 hours, record the quantity of gas discharged to the flare for each 24-hour period. Engineering calculations are allowed for fuel gas combustion devices, but are not allowed for flares, except for those complying with the alternative monitoring requirements in §60.107a(g).

Affected Facility(s)	24-hour Period	Quantity of Gas Discharged over Event Duration (dscf)
GOH Flare FL-0404	09/28/2018 23:00 – 09/29/2019 22:59	4,827,960

60.108a(c)(6)(iv) For each discharge greater than 500lbs SO₂ in any 24-hour period from a **flare**, the measured total sulfur concentration or both the measured H₂S concentration and the estimated total sulfur concentration in the fuel gas at a representative location in the flare inlet.

Date	Number of hours	Hourly Average Measured Total Sulfur Concentration During Event (ppm) {60.108a(c)(6)(iv)}
09/28/2018 23:00 – 09/28/2018 23:59	1	4,130
09/29/2018 00:00 – 09/29/2018 22:59	23	437

60.108a(c)(6)(v) For each discharge greater than 500lbs SO₂ in excess of the applicable short-term emissions limit in §60.102a(g)(1) from a **fuel gas combustion device**, either the measured concentration of H₂S in the fuel gas or the measured concentration of SO₂ in the stream discharged to the atmosphere. Process knowledge can be used to make these estimates for fuel gas combustion devices, but cannot be used to make these estimates for flares, except as provided in §60.107a(e)(4).

Not applicable to this event.

60.108a(c)(6) (vi) For each discharge greater than 500lbs SO₂ in excess of the allowable limits from a **sulfur recovery plant**, either the measured concentration of reduced sulfur or SO₂ discharged to the atmosphere.

Not applicable to this event.

60.108a(c)(6) (vii) For each discharge greater than 500lbs SO₂ in any 24-hour period from any affected flare or discharge greater than 500lbs SO₂ in excess of the allowable limits from a fuel gas combustion device or sulfur recovery plant, the cumulative quantity of H₂S and SO₂ released into the atmosphere. For releases controlled by flares, assume 99-percent conversion of reduced sulfur or total sulfur to SO₂. For fuel gas combustion devices, assume 99-percent conversion of H₂S to SO₂.

Affected Facility	Cumulative Quantity of H ₂ S Released (pounds)	Cumulative Quantity of SO ₂ Released (pounds)
GOHT Flare (FL-0404)	3.1	572

60.108a(c)(6) (viii) The steps that the owner or operator took to limit the emissions during the discharge.

Operations followed procedures to minimize the impact of the excess emissions on ambient air quality. The gas was safely combusted in a steam-assisted flare and scavenger was injected into the system. Maintenance worked quickly to determine what steps needed to be taken to reduce excess flaring.

60.108a(c)(6) (ix) The root cause analysis and corrective action analysis conducted as required in § 60.103a(d), including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary under § 60.103a(e).

Affected Facility(s): GOH Flare (FL-0404)

Date of Discharge: 09/28/2018

Duration of Discharge: 24 hours

ROOT CAUSE ANALYSIS

The flaring is caused by low temperature and no steam in (W-3401). Until temperature is hot enough for stripping steam to be added, all built up pressure in (W-3402) is vented to FL-0404.

CORRECTIVE ACTION ANALYSIS

No corrective actions are planned. Operations continues to investigate alternatives to startup procedures for the purpose of identifying potential methods to reduce or eliminate the need to flare during unit startup.

60.108a(c)(6) (x) For any corrective action analysis for which corrective actions are required in § 60.103a(e), a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

Corrective Action	Actions Completed within 45 days	Proposed Start Date	Completion Date

HollyFrontier Navajo Refining LLC

501 E. Main
Artesia, NM 88201
(575) 748-3311

Temperature was hot enough for W-3401	Yes	N/A	N/A
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60.108a(c)(6) (xi) For each discharge from any affected **flare** that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the affected flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan.

Not applicable to this event.



**New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375**



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SECTION I - GENERAL COMPANY AND FACILITY INFORMATION					
A. ® Company Name: HollyFrontier Navajo Refining LLC			D. ® Facility Name: HollyFrontier Navajo Refining LLC		
B.1 ® Company Address: PO Box 159			E.1 ® Facility Address: 501 E. Main St.		
B.2 ® City: Artesia	B.3 ® State: NM	B.4 ® Zip: 88211-0159 ¹	E.2 ® City: Artesia	E.3 ® State: NM	E.4 ® Zip: 88210
C.1 ® Company Environmental Contact: Scott M. Denton		C.2 ® Title: Environmental Manager	F.1 ® Facility Contact: Scott M. Denton		F.2 ® Title: Environmental Manager
C.3 ® Phone Number: 575-746-5487		C.4 ® Fax Number: 575-746-5451	F.3 ® Phone Number: 575-746-5487		F.4 ® Fax Number: 575-746-5451
C.5 ® Email Address: Scott.Denton@hollyfrontier.com			F.5 ® Email Address: Scott.Denton@hollyfrontier.com		
G. Responsible Official: (Title V only): Parrish R. Miller		H. Title: Vice President & Refinery Manager	I. Phone Number: 575-748-3311		J. Fax Number: 575-746-5451
K. ® AI Number: 198	L. Title V Permit Number: P051-R2	M. Title V Permit Issue Date: 05/06/2015	N. NSR Permit Number: PSD-NM-0195-M37		O. NSR Permit Issue Date: 08/12/2016
P. Reporting Period: From: 01/01/2019 To: 03/31/2019					

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A. ☐	Title V Annual Compliance Certification	Permit Condition(s):	Description:	
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ or NOI No. ☐	Condition(s):	Description:
G. ☒	Requirement of an Enforcement Action	NOV No. ☐ or SFO No. ☐ or CD No. ☒ or Other ☐ CIV-01 1422LH	Section(s): Paragraphs 37 and 23.0	Description: EPA Consent Decree Quarterly Report for HollyFrontier Navajo Refining (Artesia and Lovington)

SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Parrish R. Miller</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: 	® Title: Vice President & Refinery Manager	® Date: 04/30/2019	® Responsible Official for Title V? ☒ Yes ☐ No

Reviewed By: _____

Date Reviewed: _____

HFNA-000003302



**New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375**



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SECTION I - GENERAL COMPANY AND FACILITY INFORMATION					
A. ® Company Name: HollyFrontier Navajo Refining LLC			D. ® Facility Name: HollyFrontier Navajo Refining LLC		
B.1 ® Company Address: PO Box 159			E.1 ® Facility Address: 7406 South Main		
B.2 ® City: Artesia	B.3 ® State: NM	B.4 ® Zip: 88211-0159 ¹	E.2 ® City: Lovington	E.3 ® State: NM	E.4 ® Zip: 88260
C.1 ® Company Environmental Contact: Scott M. Denton		C.2 ® Title: Environmental Manager	F.1 ® Facility Contact: Scott M. Denton		F.2 ® Title: Environmental Manager
C.3 ® Phone Number: 575-746-5487		C.4 ® Fax Number: 575-746-5451	F.3 ® Phone Number: 575-746-5487		F.4 ® Fax Number: 575-746-5451
C.5 ® Email Address: Scott.Denton@hollyfrontier.com			F.5 ® Email Address: Scott.Denton@hollyfrontier.com		
G. Responsible Official: (Title V only): Parrish R. Miller		H. Title: Vice President & Refinery Manager	I. Phone Number: 575-748-3311		J. Fax Number: 575-746-5451
K. ® AI Number: 622	L. Title V Permit Number: P020-R2	M. Title V Permit Issue Date: 07/13/2015	N. NSR Permit Number: 0273-M9		O. NSR Permit Issue Date: 05/06/2014
P. Reporting Period: From: 01/01/2019 To: 03/31/2019					

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A. ☐	Title V Annual Compliance Certification	Permit Condition(s):	Description:	
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ or NOI No. ☐	Condition(s):	Description:
G. ☒	Requirement of an Enforcement Action	NOV No. ☐ or SFO No. ☐ or CD No. ☒ or Other ☐	Section(s): Paragraphs 37 and 23.O	Description: EPA Consent Decree Quarterly Report for HollyFrontier Navajo Refining (Artesia and Lovington)

SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Parrish R. Miller</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: 	® Title: Vice President & Refinery Manager	® Date: 04/30/2019	® Responsible Official for Title V? ☒ Yes ☐ No

Reviewed By: _____

Date Reviewed: _____

HFNA-000003303



July 30, 2019

U.S. Environmental Protection Agency
Director, Air Enforcement Division
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Mail Code 2242-A
Washington, DC 20460

Certified Mail/Return Receipt
7018 0360 0001 7923 5828

**Re: Quarterly Implementation Progress Report
Pursuant to the Consent Decree entered March 5, 2002 by the
U.S. District Court for the District of New Mexico in
United States of America et al. v. Navajo Refining Company, LLC et al.**

Dear Director:

Pursuant to Paragraphs 37 and 23.O of the subject consent decree, this submittal provides the status of implementation of consent decree requirements through the calendar quarter ending June 30, 2019 for HollyFrontier Navajo Refining LLC (formerly Navajo Refining Company, L.L.C), (Navajo's) Artesia and Lovington, NM refineries. As specified by Paragraph 37, a statement of certification is provided on the following page.

In accordance with the notice provisions of Paragraph 91, copies of this report are being mailed to EPA Region 6 (i.e., the Applicable EPA Region) and to both addresses listed for the State of New Mexico. Navajo is also providing an additional hardcopy to EPA's contractor and an electronic-mail copy to the address provided in the email from EPA Region 6 dated January 31, 2019.

If you have any questions regarding this submittal, please contact me at 575-746-5487 or Ray Smalts at 575-746-5490.

Sincerely,

Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC
P.O. Box 159
Artesia, New Mexico 88211-0159
Phone: (575) 746-5487
E-mail: Scott.Denton@hollyfrontier.com

By signature below, the undersigned hereby certifies to the following:

Statement of Certification

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.



Parrish R. Miller
Vice President & Refinery Manager
HollyFrontier Navajo Refining LLC

Enclosure

cc (w/enc.): Bureau Chief
Air Quality Bureau
New Mexico Environment Department
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87507

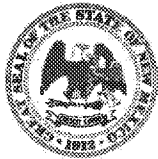
General Counsel
Office of General Counsel
New Mexico Environment Department
P.O. Box 26110
Santa Fe, NM 87502-6110

U.S. Environmental Protection Agency
c/o Matrix Environmental & Geotechnical Services
Matrix New World Engineering, Inc.
26 Columbia Turnpike
Florham Park, NJ 07932

Electronic cc (w/enc.): R6CAACDDeliverables@epa.gov

Electronic cc (w/enc.): HollyFrontier: P. Miller, B. Romine, R. Smalts
J. Stump, T. Jones, T. Wheeler, S. Gokhale, R. Bagherian

Environmental File: 5.2.3.1 Consent Decree\Subm-Resp\Quarterly Reports\2019\2019-07-30 2QT Report\2019-07-30 2QT
Consent Decree Report.pdf



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SECTION I - GENERAL COMPANY AND FACILITY INFORMATION					
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B.2 ® City: Artesia	B.3 ® State: NM	B.4 ® Zip: 8 8 2 1 1 - 0 1 5 9	E.2 ® City: Artesia	E.3 ® State: NM	E.4 ® Zip: 88210
C.1 ® Company Environmental Contact: Scott M. Denton		C.2 ® Title: Environmental Manager		F.1 ® Facility Contact: Scott M. Denton	
C.3 ® Phone Number: 575-746-5487		C.4 ® Fax Number: 575-746-5451		F.3 ® Phone Number: 575-746-5487	
C.5 ® Email Address: Scott.Denton@hollyfrontier.com			F.5 ® Email Address: Scott.Denton@hollyfrontier.com		
G. Responsible Official: (Title V only): Parrish R. Miller		H. Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC		I. Phone Number: 575-748-3311	
				J. Fax Number: 575-746-5451	
K. ® AI Number: 198	L. Title V Permit Number: P051-R2M1	M. Title V Permit Issue Date: 01/22/2016	N. NSR Permit Number: PSD-NM-0195-M37R2	O. NSR Permit Issue Date: 11/14/2018	
P. Reporting Period: From: 04/01/2019 To: 06/30/2019					

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A. ☐	Title V Annual Compliance Certification	Permit Condition(s):	Description:	
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ or NOI No. ☐	Condition(s):	Description:
G. ☒	Requirement of an Enforcement Action	NOV No. ☐ or SFO No. ☐ or CD No. ☒ or Other ☐ CIV-01 1422LH	Section(s): Paragraphs 37 and 23.O	Description: EPA Consent Decree Quarterly Report for HollyFrontier Navajo Refining (Artesia and Lovington)

SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Parrish R. Miller</u> certify that the information in this submittal is true, accurate and complete. (name of reporting official)			
® Signature of Reporting Official: 	® Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	® Date: 07/30/2019	® Responsible Official for Title V? ☒ Yes ☐ No

Reviewed By: _____

Date Reviewed: _____

HFNA-000003306



**New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
Phone (505) 476-4300 Fax (505) 476-4375**



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B.2 ® City: Artesia	B.3 ® State: NM	B.4 ® Zip: 8 8 2 1 1 - 0 1 5 9	E.2 ® City: Lovington	E.3 ® State: NM	E.4 ® Zip: 88260
C.1 ® Company Environmental Contact: Scott M. Denton	C.2 ® Title: Environmental Manager		F.1 ® Facility Contact: Scott M. Denton	F.2 ® Title: Environmental Manager	
C.3 ® Phone Number: 575-746-5487	C.4 ® Fax Number: 575-746-5451		F.3 ® Phone Number: 575-746-5487	F.4 ® Fax Number: 575-746-5451	
C.5 ® Email Address: Scott.Denton@hollyfrontier.com			F.5 ® Email Address: Scott.Denton@hollyfrontier.com		
G. Responsible Official: (Title V only): Parrish R. Miller		H. Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	I. Phone Number: 575-748-3311		J. Fax Number: 575-746-5451
K. ® AI Number: 622	L. Title V Permit Number: P020-R2M1	M. Title V Permit Issue Date: 01/22/2016	N. NSR Permit Number: 0273-M9R1		O. NSR Permit Issue Date: 01/22/2016
P. Reporting Period: From: 04/01/2019 To: 06/30/2019					

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A. ☐	Title V Annual Compliance Certification	Permit Condition(s):	Description:	
B. ☐	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No. ☐ or NOI No. ☐	Condition(s):	Description:
G. ☒	Requirement of an Enforcement Action	NOV No. ☐ or SFO No. ☐ or CD No. ☒ or Other ☐ CIV-01 1422LH	Section(s): Paragraphs 37 and 23.O	Description: EPA Consent Decree Quarterly Report for HollyFrontier Navajo Refining (Artesia and Lovington)

SECTION IV - CERTIFICATION			
After reasonable inquiry, I, <u>Parrish R. Miller</u> (name of reporting official)		certify that the information in this submittal is true, accurate and complete.	
® Signature of Reporting Official: 		® Title: Vice President & Refinery Manager, HollyFrontier Navajo Refining LLC	® Date: 07/30/2019
		® Responsible Official for Title V? ☒ Yes ☐ No	

Reviewed By: _____

Date Reviewed: _____

HFNA-000003307

CALENDAR QUARTERLY REPORT

**SUBMITTED PURSUANT TO SECTION IX
OF THE CONSENT DECREE ENTERED IN
*UNITED STATES OF AMERICA ET AL.
V. NAVAJO REFINING COMPANY, L.P.,
AND MONTANA REFINING COMPANY*
(ENTERED MARCH 5, 2002)**

Cumulative from Lodging (December 20, 2001)
Through June 30, 2019

**HollyFrontier Navajo Refining LLC
(formerly Navajo Refining Company, L.L.C.)
Artesia and Lovington, NM Refineries
P.O. Box 159
Artesia, NM 88211-0159**

Calendar Quarterly Report – 2nd Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

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ATTACHMENTS

ATTACHMENT 1 – APPENDIX G SUMMARY REPORT
 ATTACHMENT 2 – APPENDIX H SUMMARY REPORT
 ATTACHMENT 3 – QUARTERLY EOL SUMMARY
 ATTACHMENT 4 – 2QT 2019 EOL ANALYTICAL REPORTS

Calendar Quarterly Report – 2nd Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

CALENDAR QUARTERLY REPORT

Cumulative from Lodging (DECEMBER 20, 2001) Through June 30, 2019

**HollyFrontier Navajo Refining LLC (Navajo)
Artesia and Lovington, NM Refineries**

1.0 INTRODUCTION

In accordance with the requirements of Section IX of the Consent Decree entered in *UNITED STATES OF AMERICA ET AL., D.V.M. NAVAJO REFINING COMPANY, L.P., AND MONTANA REFINING COMPANY* (entered March 5, 2002), Navajo submits the following “calendar quarterly report” for the Artesia and Lovington, NM refineries. Section IX requires that the quarterly report be submitted within 30 days following the calendar quarter. Today’s report covers actions through the second quarter 2019. For completeness, this report addresses relevant actions or activities not just within the current quarter but anytime after the December 20, 2001 Date of Lodging. The contents of this report include:

1. A progress report on the implementation of the requirements of Section V (Section 2.0)
2. A description of any problems anticipated with respect to meeting the requirements of Section V (Section 3.0)
3. A summary of the emissions data as required by Section V (Section 4.0);
4. A description of environmentally beneficial projects and SEP implementation activity during this reporting period (Section 5.0); and
5. Such other matters as Navajo believes should be brought to the attention of EPA (Section 6.0).

Summaries showing the progress on Consent Decree Appendices G and H are provided as Attachments 1 and 2, respectively.

Calendar Quarterly Report – 2nd Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

2.0 PROGRESS REPORT ON IMPLEMENTATION OF SECTION V OF THE CONSENT DECREE

A. Section V, Paragraphs 11 and 14: NO_x and CO Emission Reductions from FCCUs

Paragraph 12: SO₂ Emission Reductions from FCCUs

Paragraph 13: PM Emission Reductions from FCCUs

Artesia FCCU (No FCCU at Lovington):

Requirement	CD Paragraph	Status/Comment
Begin baseline period, perform notices of Low- NO _x promoter and optimization study. Baseline period data collection from 1/1/04 – 6/30/04. Optimization period to commence no later than June 30, 2004.	11.B	Requirement completed. The optimization period was completed and the optimized addition rate to be used during the demonstration period was submitted to EPA with supporting documentation on 2/24/05.
Commencement of NO _x Additive Demonstration Period and reporting beginning 3/31/05.	11.D	As agreed between Navajo and EPA, the Demonstration Period ended 05/31/2006. Navajo submitted proposed concentration-based NO _x limits on 07/27/2006.

Calendar Quarterly Report – 2nd Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
Install/certify CEMS to monitor FCCU NO _x and O ₂ by 12/31/03.	11.F	CEMS installed and certification RATA performed 11/13/03. Report showing initial certification submitted to NMED on 1/7/04. Pursuant to 40 CFR 60 App F, annual RATA performed 02/14 and 02/15/06. Report showing certification submitted to NMED on 03/15/06. Pursuant to 40 CFR 60 App F, annual RATA performed 01/24/07. Report showing certification submitted to NMED on 02/22/07. Pursuant to 40 CFR 60 App F, annual RATA performed 01/22/08. Report showing certification submitted to NMED on 02/18/08. Pursuant to 40 CFR 60 App F, annual RATA performed 03/03/09. Report showing certification submitted to NMED on 03/30/09. Pursuant to 40 CFR 60 App F, annual RATA performed 03/02/2010 and 03/03/2010. Report showing certification submitted to NMED on 04/05/2010. Pursuant to 40 CFR 60 App F, annual RATA performed 03/01/2011. Report showing certification submitted to NMED on 03/28/2011. Pursuant to 40 CFR 60 App F, annual RATA performed 01/17/2012. Report showing certification submitted to NMED on 02/17/2012. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2013. Report showing certification submitted to NMED on 02/07/2013. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2014. Report showing certification submitted to NMED on 02/04/2014. Annual RATA performed 01/06/2015. Report submitted to NMED on 02/05/2015. Annual RATA performed 01/05/2016. Report submitted to NMED on 02/04/2016. Annual RATA performed 01/03/2017. Report submitted to NMED on 02/04/2017. Annual RATA performed 01/09/2018. Report submitted to NMED on 02/09/2018. Annual RATA performed 02/13/2019. Report submitted to NMED on 03/23/2019. A review of documentation of QC procedures under 40 CFR 60 App. F was recently undertaken. Documentation of all QC procedures in accordance with 40 CFR 60 App. F was completed as of 12/31/2017.

Calendar Quarterly Report – 2nd Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
Submit plan to minimize NOx from FCCU during GOHT outages within 180 days of Lodging Date.	11.G	Plan Submitted on 6/18/02. EPA's response letter dated 12/9/04 enumerated the requirements for Navajo to have relief from the short term NOx emission limit.
Install and operate wet gas scrubber on FCCU to meet 25 ppmv (annual avg) and 50 ppmv (7-day) SO ₂ by 12/31/03.	12.B	Wet gas scrubber installed and operational during 4 th Quarter 2003. SO ₂ performance testing completed on 10/16/03; report submitted 1/7/04.

Calendar Quarterly Report – 2nd Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
Install and calibrate SO ₂ CEMS in accordance with 40 CFR 60.11, 60.13 and Part 60 App. F	12.D	CEMS installed and certification RATA performed 11/13/03. Report showing initial certification submitted to NMED on 1/7/04. Pursuant to 40 CFR 60 App F, annual RATA performed 02/14 and 02/15/06. Report showing certification submitted to NMED on 03/15/06. Pursuant to 40 CFR 60 App F, annual RATA performed 01/24/07. Report showing certification submitted to NMED on 02/22/07. Pursuant to 40 CFR 60 App F, annual RATA performed 01/22/08. Report showing certification submitted to NMED on 02/18/08. Pursuant to 40 CFR 60 App F, annual RATA performed 03/03/09. Report showing certification submitted to NMED on 03/30/09. Pursuant to 40 CFR 60 App F, annual RATA performed 03/02/2010 and 03/03/2010. Report showing certification submitted to NMED on 04/05/2010. Pursuant to 40 CFR 60 App F, annual RATA performed 03/01/2011. Report showing certification submitted to NMED on 03/28/2011. Pursuant to 40 CFR 60 App F, annual RATA performed 01/17/2012. Report showing certification submitted to NMED on 02/17/2012. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2013. Report showing certification submitted to NMED on 02/07/2013. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2014. Report showing certification submitted to NMED on 02/04/2014. Annual RATA performed 01/06/2015. Report submitted to NMED on 02/05/2015. Annual RATA performed 01/05/2016. Report submitted to NMED on 02/04/2016. Annual RATA performed 01/03/2017. Report submitted to NMED on 02/04/2017. Annual RATA performed 01/09/2018. Report submitted to NMED on 02/09/2018. Annual RATA performed 02/13/2019. Report submitted to NMED on 03/23/2019. See entry for Paragraph 11.F. regarding 40 CFR 60 App. F QC procedures.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
WGS shall achieve 1 lb PM per 1000 lb coke burn on 3-hr basis by 12/31/03.	13.B	Wet gas scrubber installed and operational during 4th Quarter 2003. PM testing completed 11/13/03 and report submitted 1/7/04. Results of 0.5-0.6 lb PM per 1,000 lb coke burn compared to <1.0 lb PM per 1,000 lb coke burn standard. Additional testing was performed 3/3/04 following repairs to the scrubber. These test results indicate <0.25 lb PM per 1,000 lb coke burn (i.e., 25% of standard).

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirement	CD Paragraph	Status/Comment
Meet 500 ppmv CO on 1-hr basis and 100 ppmv on annual avg. by 12/31/03. Install/Certify CEMS for FCCU CO and O ₂ by 12/31/03.	14.B and 14.C	CO performance testing conducted 10/16/03. CEMS installed and RATA performed 11/13/03. Report showing certification submitted to NMED on 1/7/04. Pursuant to 40 CFR 60 App F, annual RATA performed 02/14 and 02/15/06. Report showing certification submitted to NMED on 03/15/06. Pursuant to 40 CFR 60 App F, annual RATA performed 01/24/07. Report showing certification submitted to NMED on 02/22/07. Pursuant to 40 CFR 60 App F, annual RATA performed 01/22/08. Report showing certification submitted to NMED on 02/18/08. Pursuant to 40 CFR 60 App F, annual RATA performed 03/03/09. Report showing certification submitted to NMED on 03/30/09. Pursuant to 40 CFR 60 App F, annual RATA performed 03/02/2010 and 03/03/2010. Report showing certification submitted to NMED on 04/05/2010. Pursuant to 40 CFR 60 App F, annual RATA performed 03/01/2011. Report showing certification submitted to NMED on 03/28/2011. Pursuant to 40 CFR 60 App F, annual RATA performed 01/17/2012. Report showing certification submitted to NMED on 02/17/2012. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2013. Report showing certification submitted to NMED on 02/07/2013. Pursuant to 40 CFR 60 App F, annual RATA performed 01/08/2014. Report showing certification submitted to NMED on 02/04/2014. Annual RATA performed 01/06/2015. Report submitted to NMED on 02/05/2015. Annual RATA performed 01/05/2016. Report submitted to NMED on 02/04/2016. Annual RATA performed 01/03/2017. Report submitted to NMED on 02/03/2017. Annual RATA performed 01/09/2018. Report submitted to NMED on 02/09/2018. Annual RATA performed 02/13/2019. Report submitted to NMED on 03/23/2019. See entry for Paragraph 11.F. regarding 40 CFR 60 App. F QC procedures.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

B. Section V, Paragraph 15: NSPS Applicability of FCCUs*Artesia FCCU (No FCCU at Lovington):*

Requirements	CD Paragraph	Status/Comment
NSPS becomes applicable to FCCU for SO ₂ , PM, CO and opacity on 12/31/03.	15	Wet gas scrubber installed and operational during 4th Quarter 2003. PM performance testing, initial CEMS certification RATA for SO₂ and CO completed 11/13/03 and report submitted 1/7/04. AMP for opacity submitted 12/31/03; pending written approval. Method 9 readings indicate 0 – 5% opacity. Annual PM testing per AMP was performed 2/8/05 indicating 0.11 lb PM/1000 lb coke. Annual PM testing per AMP was performed 2/15/06 indicating 0.19 lb PM/1000 lb coke. Annual PM testing per AMP was performed 1/24/07 indicating 0.34 lb PM/1000 lb coke. Annual PM testing per AMP was performed 1/22/08 indicating 0.13 lb PM/1000 lb coke. Annual PM testing per AMP was performed 3/3/09 indicating 0.47 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 03/02/2010 and 03/03/2010 indicating 0.54 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 03/01/2011 indicating 0.23 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 01/17/2012 indicating 0.39 lb PM/1000 lb coke burned. Annual PM testing per AMP was performed 01/08/2013, which did not show compliance, and again on 3/04/2013 indicating 0.204 lb PM/1000 lb coke burned. Annual PM testing per AMP performed 01/08/2014 indicating 0.71 lb PM/1000 lb coke burned. Report showing certification submitted to NMED on 02/04/2014. Annual PM testing per AMP performed 01/06/2015 indicating 0.11 lb PM/1000 lb coke burned. Report submitted to NMED on 02/05/2015. Annual PM testing per AMP performed 01/05/2016 indicating 0.35 lb PM/1000 lb coke burned. Report submitted to NMED on 02/04/2016. Annual PM testing per AMP performed 01/03/2017 indicating 0.03 lb PM/1000 lb coke burned. Report submitted to NMED on 02/03/2017. Annual PM testing per AMP performed 01/09/2018 indicating 0.50 lb PM/1000 lb coke burned. Report submitted to NMED on 02/09/2018. Annual PM testing per AMP performed 02/13/2019 indicating 0.10 lb PM/1000 lb coke burned. Report submitted to NMED on 03/23/2019.

Calendar Quarterly Report – 2nd Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

C. Section V, Paragraph 16: NOx Emissions Reductions from Heaters and Boilers

Requirements	CD Paragraph	Status/Comment
Install NOx control on B-7 by 12/31/02 to meet 0.06 lb/MMBtu and operate CEMS on B-7 for NOx and O ₂ .	16.B.ii. and 16.C.i.	FGR started up on 12/17/2002. CEMS installed and was successfully certified by a RATA performed 12/18/2002. Test results and CEMS indicate B-7 meets NOx control requirement. Pursuant to 40 CFR 60 App F, annual RATA performed 09/26/2006, 09/13/2007, 09/09/2008, 09/17/2009, 08/24/2010, 08/16/2011, 08/15/2012, 08/07/2013. RATA performed 07/30/2014. Certification report submitted to NMED on 09/11/2014. RATA performed 07/23/2015. Certification report submitted to NMED on 08/20/2015. RATA performed 07/13/2016. Certification report submitted to NMED on 08/05/2016. RATA performed 06/21/2017. Certification report submitted to NMED on 07/20/2017. RATA performed 03/06/2018. Certification report submitted to NMED on 03/29/2018. RATA performed 03/19/2019. Certification report submitted to NMED on 04/18/2019.
Install NOx control on B-8 by 12/31/03 to meet 0.06 lb/MMBtu and operate CEMS on B-8 for NOx and O ₂ .	16.B.ii. and 16.C.i.	B-8 began actual initial startup and shakedown period on 7/23/03. NOx controls and CEMS operational. CEMS RATA and B-8 performance testing done 10/29/03. Test report submitted 12/8/03. Pursuant to 40 CFR 60 App F, annual RATA performed 09/26/2006, 09/13/2007, 09/09/2008, 09/17/2009, 08/24/2010 08/16/2011, 08/15/2012, 08/06/2013, 07/30/2014. RATA was performed 07/29/2014. Certification report submitted to NMED on 09/11/2014. RATA was performed 07/22/2015. Certification report submitted to NMED on 08/20/2015. RATA was performed 07/13/2016. Certification report submitted to NMED on 08/05/2016. RATA performed 06/21/2017. Certification report submitted to NMED on 07/20/2017. RATA performed 03/07/2018. Certification report submitted to NMED on 03/29/2018. RATA performed 03/19/2019. Certification report submitted to NMED on 04/18/2019.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Install next-generation ultra-low NOx control on H-20 and H-601 at Artesia refinery. Performance test H-20 and H-601. Establish compliance indicators by an initial performance test.	16.B.i., 16.C.iii., and Appendix C	H-601 burners installed. Testing conducted on 3/2/04. Report including proposed compliance indicators and permit limits was submitted 5/14/04. H-20 burners installed prior to 12/31/05 deadline and heater resumed operation 12/29/05. H-20 performance test conducted on 02/16/06. Report submitted to NMED on 03/23/06. Permit limit proposed in air permit application submitted to NMED on 4/27/06. NMED issued permit 6/23/06.

Calendar Quarterly Report – 2nd Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Install next-generation ultra-low NOx control on H-101 at Lovington refinery. Operate CEMS or PEMS on H-101 by 12/31/05.	16.B.i., 16.C.ii., and Appendix C	Heater H-101 was removed from service November 2003. Navajo installed NGULNBs in the new Crude Oil Charge Heater (H-103) that replaced H-101. Installation of H-103 was completed during December 2003 turnaround and began operation after 4th Quarter turnaround. As-installed duty of NGULNBs was < 150 MM Btu/hr, but > 100 MM Btu/hr. H-103 initial testing done 03/04/04. Test report, including proposed parametric monitoring plan and permit limits, was submitted 05/14/04. The permit with new limits was approved on 02/21/2006. In 02/2009, Navajo installed eight additional NGULNBs in the Crude Oil Charge Heater (H-103) that replaced H-101. As-installed duty of NGULNBs was > 150 MM Btu/hr, so a NOx CEMS was installed. An initial performance test and the NOx CEMS RATA were conducted 05/21/2009. Pursuant to 40 CFR 60 App F, annual RATA performed 05/20/2010, 08/16/2011, 05/24/2012. RATA was performed 05/14/2013. Certification report submitted to NMED on 06/10/2013. RATA was performed 05/13/2014. Certification report submitted to NMED on 06/12/2014. RATA was performed 05/06/2015. Certification report submitted to NMED on 06/04/2015. RATA was performed 05/04/2016. Certification report submitted to NMED on 06/03/2016. RATA was performed 04/25/2017. Certification report submitted to NMED on 05/16/2017. RATA was performed 02/14/2018. Certification report submitted to NMED on 03/14/2018. RATA was performed 03/05/2019. Certification report submitted to NMED on 04/08/2019. Based on a review, not all QC procedures for heaters and boilers with CEMS may be documented in accordance with 40 CFR 60 App. F. The 4th quarter 2017 Consent Decree progress report inadvertently cross-referenced the entry for Paragraph 11.F. (pertaining to the FCCU) and did not explain that QC procedures for heaters and boilers with CEMS may not have been fully documented. A review of documentation of QC procedures under 40 CFR 60 App F was undertaken. A QA/QC manual was finalized in January 2019.

Calendar Quarterly Report – 2nd Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Install next-generation ultra-low NOx control on H-600 and 70-H1/H2/H3 at Artesia refinery. Performance test H-600, and 70-H1/H2/H3. Establish compliance indicators by 12/31/09.	16.B.i., 16.C.iii., and Appendix C	H-600: Air permit 0195-M25-R3 authorizing the burner retrofit was issued by NMED on 05/14/08. The retrofit was completed in 02/2009. The performance test was conducted 03/04/09 and the test report submitted 03/30/09. Administrative permit revision 0195-M26-R1 effective 04/14/2009. 70-H1/H2/H3: NGULNBs were installed in CCR Heaters 70-H1/H2/H3 in May 2006 and heaters resumed operation on 6/2/06. Performance test conducted 7/11/06 and test report submitted 8/15/06. An application for a proposed permit limit was submitted to NMED 9/28/06. NMED issued permit PSD-NM-0195-M25 on 12/14/2007.
Install next-generation ultra-low NOx control on B-SG-1101A and B-SG-1101B at Lovington refinery by 12/31/09. Conduct performance test B-SG-1101A and B-SG-1101B and establish compliance indicators.	16.B.i., 16.C.iii., and Appendix C	An air permit application proposing the installation of NGULNBs in SG-1101A and SG-1101B was submitted to NMED on 12/21/2007. Permit 0273-M7 authorizing the retrofit with NGULNBs was issued by NMED on 05/06/2008. Navajo subsequently decided to replace the existing boilers with new boilers using NGULNBs. Permit 0273-M7-R1 authorizing the replacement boilers was issued by NMED on 10/14/2009. Boiler SG-110B was permanently shut down on 12/05/2009. Its replacement, BO-1104, began operation on 12/17/2009. Initial performance testing was conducted 01/28/2010 on BO-1104 and the report submitted to NMED on 02/24/2010. Because of initial operating problems with BO-1104, the second boiler, SG-1101A was not permanently shut down until 01/04/2010. Its replacement, BO-1105, began operation on 01/15/2010. Initial performance testing was conducted 01/26/2010 on BO-1105 and the report submitted to NMED on 2/24/2010. The BO-1105 initial performance test was conducted on 1/26/2010, and the report submitted to the AQB on 02/24/2010. The BO-1104 initial performance test was conducted on 01/28/2010, and the report submitted to the AQB on 02/24/2010. The burners installed with BO-1105 and BO-1104, were subsequently found to not meet the NGULNB performance specification in the Consent Decree. The installation of NGULNB in BO-1105 was completed 06/20/2013. The installation of BO-1104 NGULNB was completed 07/29/2013. BO-1105 NOx Performance Test was completed 07/12/2013 and the results were submitted to NMED on 08/06/2013. BO-1104 NOx Performance Test was completed 09/04/2013 and the results were submitted to NMED on 12/05/2013.

Calendar Quarterly Report – 2nd Quarter 2019

HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
Submit proposed NOx permit limits within 120 days of NOx control technology installation.	16.D	Requirement completed. B-7: Proposed B-7 NO_x limit submitted to NMED 01/31/03. B-8: Proposed B-8 NO_x limit submitted to NMED 12/8/03. H-601: Proposed H-601 NO_x limit submitted 5/14/04 in stack test report and permitted in 195-M17 as issued 12/15/04. H-103 (Lovington Refinery): Proposed H-103 NO_x limit submitted 5/14/04 in stack test report; on 2/21/06 NMED issued 0273-M4 to add the NOx limit. After installing additional NGULNBs in 02/2009, the limits were confirmed in the 05/21/2009 test and included in Permit 0273-M7-R1 issued by NMED on 10/14/2009. H-20: Proposed H-20 NOx limit submitted to NMED in air permit application on 04/27/06; permit 0195-M24 issued 06/23/06. 70-H1/H2/H3: Proposed 70-H1/H2/H3 NOx limit submitted to NMED in air permit application on 09/28/06; permit PSD-NM-0195-M25 issued 12/14/2007. H-600: Proposed H-600 NOx limit authorized by NMED air permit administrative revision effective on 04/14/09. BO-1104 and BO-1105: (replacement boilers for B-SG-110A and B-SG-1101B). Proposed BO-1104 and BO-1105 NOx limits submitted to NMED in air permit application on 04/13/2010; permit 0273-M8 issued 07/19/2010.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Submit annual progress report on NOx control technology	16.E	First report was submitted 12/19/02. The report for 2003 was submitted 12/29/03 with supplemental information provided 1/8/04. 2004 report submitted 12/31/2004. 2005 report submitted 12/31/2005. 2006 report submitted 12/11/2006. 2007 report submitted 12/20/2007. 2008 report submitted 12/19/2008. 2009 report submitted 12/28/2009. 2010 report submitted 12/15/2010. 2011 report submitted 12/31/2011. 2012 report submitted 12/11/2012. 2013 report submitted 12/18/2013. 2014 report submitted 12/19/2014. 2015 report submitted 12/31/2015. 2016 report submitted 12/30/2016. 2017 report submitted 12/28/2017. 2018 report submitted 12/27/2018.
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D. Section V, Paragraph 17: SO₂ Emissions Reductions from Heaters and Boilers and NSPS Applicability

Requirements	CD Paragraph	Status/Comment
NSPS Subparts A and J become applicable to Heaters and Boilers by Date of Lodging.	17.B	Commenced 12/20/01 See entry for Paragraph 16.B.i., 16.C.ii., and Appendix C on p. 12 of this report regarding 40 CFR 60 App. F QC procedures.

E. Section V, Paragraphs 18 and 19: NSPS Applicability for SRP and Flaring Devices

Requirements	CD Paragraph	Status/Comment
SRP shall comply with NSPS J limit and monitor tail gas emissions by Date of Lodging.	18.C.i. and 18.C.ii.	Commenced 12/20/01. See entry for Paragraph 11.F. regarding 40 CFR 60 App. F QC procedures.

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HollyFrontier Navajo Refining LLC, Artesia and Lovington Refineries

Requirements	CD Paragraph	Status/Comment
NSPS Subparts A and J become applicable to Flares by Date of Lodging.	Appendix E	Commenced 12/20/01. The recent implementation of flare monitoring requirements under NSPS Ja resulted in the identification and repair of several relief valves that were leaking to the flare. In addition, three flare gas streams with higher sulfur levels were identified as routed to the Lovington flare. These three streams were rerouted to the fuel gas system. As of November 11, 2015, all gas streams currently routed to the flares are monitored for compliance with the NSPS Ja requirements. Excess emission information for the flares at Artesia and Lovington for the semiannual period: January-June 2016 was included in Attachment 4 to the 3rd quarter 2016 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2016 was included in the semiannual NSPS monitoring report submitted on January 30, 2017, and was attached to the 1st quarter 2017 Consent Decree Progress Report. Excess emission information for events occurring during the semiannual period: January-June 2017 was included in the semiannual NSPS Ja monitoring report submitted on July 28, 2017, and was attached to the 3rd quarter Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2017 was included in the semiannual NSPS monitoring report submitted on January 30, 2018, and was attached to the 1st quarter 2018 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: January-June 2018 was included in the semiannual NSPS monitoring report submitted on July 30, 2018, and was attached to the 3rd quarter 2018 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2018 was included in the NSPS monitoring report submitted on January 30, 2019, and was attached to the 1st quarter Consent Decree Progress Report.
Submit AMP plan for Flares FL-400, FL-401, FL-402 and FL-403 within 90 days of Lodging Date.	Appendix E	Submitted 3/19/02.

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Requirements	CD Paragraph	Status/Comment
NSPS Subparts A and J become applicable to Flare FL-1001 at Lovington refinery on 12/31/06.	Appendix E	Off-Gas Scrubber system for sweetening sour LPG before combusting in flare completed by 12/31/06.
Submit AMP plan for Flare FL-1001 at Lovington refinery by 7/30/07.	Appendix E	An approvable AMP was submitted 02/14/07. AMP is pending EPA approval.
Submit enhanced Maintenance and Operation plan for SRP (PMO plan) within 270 days of Date of Lodging.	18.D	Plan submitted on 9/16/02 and updated on 03/24/05. The last revision was completed on 09/2017
Begin optimization study on SRP by 1/1/04.	18.E	Study commenced by 1/1/04 deadline.
Complete optimization study on SRP and report results by 12/31/04.	18.E	Navajo retained a third party to coordinate performance testing for the optimization study and prepare a report which was submitted to EPA on 12/31/04.
10-day prior notice required for scheduled Duke Energy shutdowns affecting Lovington refinery by Date of Lodging.	19.E	Commenced 12/20/01.

F. Section V, Paragraphs 20 and 21: Control of Acid Gas Flaring, Tail Gas Incidents and Hydrocarbon Flaring

Requirements	CD Paragraph	Status/Comment
Perform root cause analyses for acid gas and tail gas incidents beginning on Lodging Date.	20	Commenced 12/20/01.
Perform root cause analyses for hydrocarbon flaring incidents beginning on Lodging Date.	21	Commenced 12/20/01.

G. Section V, Paragraph 22: Benzene Waste NESHAP

Requirements	CD Paragraph	Status/Comment
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Requirements	CD Paragraph	Status/Comment
Complete Phase One of the review and verification of the TAB by 9/16/02.	22.C.i.	Completed 09/11/02.
Submit BWN Phase One Compliance Review and Verification report for EPA approval by 10/16/02.	22.C.i.	Report of results submitted on 10/09/02.
Submit amended TAB report if BWN Compliance Review shows reporting applied.	22.D.i.	Amended TAB report was included in the 10/09/02 submittal.
Establish annual review program	22.E	Completed as part of Phase One review and is now ongoing.
Train employees who conduct sampling.	22.G and 22.M.ii.a(1)	A training plan was developed on 12/06/02 for the Artesia Refinery (i.e., since its TAB is greater than 1.0 Mg/yr). The first training session was held 01/07/03 at both the Artesia and Lovington refineries. The second training session for the two refineries was held 1/27/04 and 01/28/04. Annual refresher training for the two refineries was performed the weeks of 02/08/05, 03/27/06, 03/05/07, 02/25/08 (Lov), 11/07/08 (Art), 12/18/09, 12/17/10 and 12/20/2011. BWON TAB training was conducted on at the Artesia and Lovington refineries on 11/08/2012 01/14/2013 and 04/18/2013, 11/12 to 11/14/2013, 05/24/2014, 06/22/2014, 12/12/2014, 3/16/2015, 4/1/2015, 5/15/2015, 2/29/2016, 3/8/2016, 3/17/2016, 09/25/2017, 11/08/2018, and 11/12/2018.
Submit schematics of Waste/Slop/Off-Spec Oil Management by 03/20/02.	22.H.i.	Submitted on 03/19/02. Revised schematics reflecting NSPS QQQ were submitted 04/29/04. Schematics are awaiting approval by EPA.
Conduct annual sampling of waste streams which the BWN Compliance Review and Verification Report showed to be 0.05 Mg/yr or greater.	22.J.i. and 22.M.ii.a(2)	The annual sampling was performed in February 2005. The results were in Attachment 4 to the first quarter 2005 report. Annual sampling performed in February 2006. The results were in Attachment 4 of the first quarter 2006 report. Annual sampling was performed in September and December 2007. The results were submitted in attachment 4 of the first quarter 2008 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2008. The results were in attachment 4 of the first quarter 2009 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2009. The results were submitted in attachment 4 of the first quarter 2010 report as required by

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Requirements	CD Paragraph	Status/Comment
		¶22.M.ii.a(2). Annual sampling was performed in December 2010. The results were in attachment 4 of the first quarter 2011 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2011. The results are in Attachment 4 of the first quarter 2012 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2012. The results were submitted in Attachment 4 of the first quarter 2013 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2013. The results were submitted in Attachment 4 of the first quarter 2014 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2014. The results were submitted in Attachment 4 of the 1st quarter 2015 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2015. The results were included in Attachment 4 of the 1st quarter 2016 report as required by ¶22.M.ii.a(2). Annual sampling was performed in October 2016. The results were included in Attachment 4 of the 1st quarter 2017 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2017. The results were included in Attachment 4 and 7 of the 1st quarter 2018 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2018. The results were included in the 1st quarter 2019 report as required by ¶22.M.ii.a(2).
Meet with NMED and EPA at the refinery and submit an annual end of line (EOL) sampling plan – applicable to Artesia Refinery (i.e., TAB is equal to or greater than 1 Mg/yr but less than 10 Mg/yr).	22.J.ii	Navajo was notified by NMED and EPA via email dated 12/9/02 that the ¶22.J.ii visit by the agencies would not occur. Navajo met the deadline by submitting the EOL sampling plan on 2/6/03. Conditional approval of the plan was received from EPA by letter dated 1/23/04. Navajo responded by submitting a revised EOL sampling plan by letter dated 3/31/04.

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Requirements	CD Paragraph	Status/Comment
Conduct quarterly EOL sampling and submit the results to EPA in quarterly report.	22.J.iii. and 22.M.ii.a(3)	These requirements are not applicable until EPA approves the sampling plan. Although EPA has not approved or commented on the revised sampling plan submitted 03/31/2004, Navajo conducted its first EOL sampling during the week of 3/22/2004. The EOL benzene quantity (BQ) for the fourth quarter of 2004 was 0.8 Mg (projected annual < 10 Mg). The annual TAB, submitted 4/05 was 4.9 Mg for Artesia and 1.5 Mg for Lovington. The 1st, 2nd, 3rd, and 4th quarter 2005 EOL BQs were each <2.5 Mg. The 1st, 2nd, 3rd, and 4th quarter 2006 EOL BQs were each <2.5 Mg. The 1st, 2nd, and 3rd quarter 2007 EOL BQs were each <2.5 Mg. The 4th quarter 2007 EOL BQ result was greater than 2.5 Mg, but the projected 2007 TAB was < 10 Mg. The 1st quarter 2008 EOL BQ result was less than 2.5 Mg. The 2nd and 3rd quarter 2008 EOL BQ results were both greater than 2.5 Mg. The EOL BQ for the 4th quarter of 2008 was <2.5 Mg and the projected 2008 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2009 was <2.5 Mg and the projected 2009 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2010 was <2.5 Mg and the projected 2010 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2011 was <2.5 Mg and the projected 2011 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2012 were each <2.5 Mg and the projected 2012 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2013 were each <2.5 Mg and the projected 2013 TAB was <10 Mg/yr. The projected 2013 TAB was < 10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2014 were each <2.5 Mg and the projected 2014 TAB was <10 Mg/yr. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2015 were <2.5 Mg and the projected TAB for 2015 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2016 exceeded 2.5 Mg. As required by paragraph 22.J.iv, Navajo submitted a plan with the fourth quarter Consent

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Requirements	CD Paragraph	Status/Comment
		Decree report that identified the specific actions to be taken and the schedule for such actions to ensure that the TAB does not exceed 10 Mg in the calendar year. The EOL BQ for the 4th quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2019 was <2.5 Mg and the projected TAB for 2019 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2019 was <2.5 Mg and the projected TAB for 2019 was <10 Mg/yr.

H. Section V, Paragraph 23: LDAR

Requirements	CD Paragraph	Status/Comment
Develop and maintain written facility-wide LDAR compliance program by 04/19/02.	23.A	Completed before 4/19/02.
LDAR Training within 1 year of Date of Lodging.	23.B	Newly assigned personnel (both 3 rd party and Navajo) are receiving training. On going training programs have been implemented.
Perform initial LDAR 3 rd party/internal audits by 12/20/02 and correct deficiencies. Repeat audits every two years.	23.C and 23.D	3rd party audits for Artesia and Lovington were conducted on 10/2002 and deficiencies were corrected per Paragraph 23.D. 3rd party audits for Artesia and Lovington were performed during 12/2004, 01/2007, 01/2009, and 01/2011. The Artesia and Lovington refineries underwent maintenance turnaround from January to March, 2013. The 2013 LDAR 3rd party audit was

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Requirements	CD Paragraph	Status/Comment
		conducted from 09/16 to 09/20/2013, after the refinery was back online and normal operation data had been collected for 1 complete quarter for comparative monitoring. A copy of the 2013 LDAR 3rd party audit report and resolutions were submitted in Attachment 5 of the 1st Quarter 2014 report. 3rd party audits for Artesia and Lovington were performed during the week of October 5th to 9th, 2015. A copy of the 2015 LDAR 3rd party audit report and resolutions are included in Attachment 5 of the 1st Quarter 2016 report. The 2017 LDAR 3rd party audit was conducted from 05/17 to 05/18/2017. A copy of the audit report was attached to the 3rd Quarter 2017 Consent Decree Progress Report. The audit resolutions were included as Attachment 5 to the 1st Quarter 2018 report. The 2019 LDAR 3rd party audit was conducted from 04/29 to 05/03/2019.
Valves use 500 ppm leak definition by 2 years after Date of Lodging	23.E.i.	Completed prior to 12/20/03.
NSPS Subpart GGG becomes applicable to FCCU wet gas compressor on 12/31/03.	23.E.iii	Compressor seal system was upgraded during 2003 FCCU turnaround. Operational beginning December 2003.
Pump monitoring using internal leak definition of 2,000 ppm in accordance with phased-in schedule – i.e., 50% by 6/20/03, 85% by 12/20/03, and 100% by 4/20/05	23.E.ii.a., b., and c.	List of pumps comprising >85% was developed and these pumps are using the 2,000 ppm leak definition for all monitoring subsequent to 12/20/03. All pump monitoring using internal leak definition of 2,000 ppm after 4/20/05.
NSPS Subpart GGG becomes applicable to Crude vent compressor at Lovington refinery as of Date of Lodging.	23.E.iii	This was completed upon CD lodging. Crude Vent Compressor (C-150A/B) is now included in the LDAR monitoring program.
First attempt at repairs on valves that have VOC reading > 200 ppm within 90 days of Lodging Date.	23.G	Commenced with January 2002 quarterly monitoring.
Quarterly monitoring of valves - no Skip Period by Date of Lodging.	23.H.ii.	Completed by 12/20/01.
LDAR database to include date, time, operator, and instrument within 6 months of Date of Lodging.	23.I.i.	Commenced with May 2002 monitoring.

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Requirements	CD Paragraph	Status/Comment
Submit operational specifications designed to minimize non-electronic data collection and transfer within 6 months of Date of Lodging	23.I.ii., and 23.O.i.b.	Submitted 6/19/02.
Develop/ implement procedure for LDAR data QA/QC within 90 days of Lodging Date.	23.J	Procedure developed on 3/19/02 and included as an appendix in the written LDAR program.
Establish accountable LDAR personnel by Date of Lodging.	23.K	Completed by 12/20/01.
Establish tracking program for adding new pumps and valves to LDAR program within 120 days of Date of Lodging	23.L	This program was established by 4/19/02 and is described in the written LDAR program.
Conduct calibration/drift assessments of monitoring instruments at the end of each shift by the Date of Lodging.	23.M	Commenced on 12/20/01.
More stringent delay of repair requirements including drill and tap for valves reading >10,000 ppm by Date of Lodging.	23.N.ii.	Commenced on 12/20/01.
Submit written facility-wide LDAR compliance program by 5/19/02.	23.O.i.a.	Submitted 05/13/2002.
Submit LDAR report with MACT Periodic reports.	23. O.ii.c.	The monitoring results were incorporated into the periodic reports submitted pursuant to 40 CFR 63.654 on: 3/15/02, 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/06/06 for Lovington), 3/16/07, 09/14/07, 3/17/08, 9/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011, 03/09/2012 and 09/06/2012 (09/06/2012 for Lovington), 03/15/2013, 09/16/2013, 02/25/2014 (Artesia), 08/26/2014 (Lovington), 02/26/2015 (Artesia and Lovington), 08/27/2015 (Artesia and Lovington), 02/18/2016 (Artesia and Lovington), 08/29/2016 (Artesia and Lovington), 02/28/2017 (Artesia and Lovington), 08/29/2017 (Artesia and Lovington), 08/30/2018 (Artesia and Lovington), and 02/28/2019 (Artesia and Lovington).

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I. Section V, Paragraph 24: Incorporate CD Requirements into Enforceable Permits

Requirements	CD Paragraph	Status/Comment
Within 180 days of Date of Lodging, submit an application for Federally enforceable NSR permit to incorporate of limits, standards, or schedules effective on the Date of Lodging.	24.A	Applications to revise the NSR permits for the Artesia and Lovington refineries were submitted 5/28/02. Permit revision issued for Lovington on 10/15/03. Permit revision for Artesia issued 12/15/04.
Submit applications within 30 days of the effective date or establishment of limits, standards, or schedules pursuant to the CD.	24.B	Navajo's understanding is that ¶16 NOx limits for boilers and heaters, which require permit application filing within 120 days after start-up under ¶16.D, are not subject to ¶24.B. No other limits under Section V have occurred to date.

Section V, Paragraph 25: Obtaining Construction Permits

Requirements	CD Paragraph	Status/Comment
Utilize best efforts to obtain construction permits to implement control projects required by the CD.	25	Requirement Completed. The 5/28/02 NSR permit revision application for the Artesia refinery represented the installation of the FCCU wet gas scrubber. Navajo submitted an application to NMED on 4/9/03 to install a new crude heater (H-103) at the Lovington refinery. The permit was issued 10/15/03. H-103 began operation in 12/03. Since heater H-103 replaced H-101 (i.e., the existing crude heater which requires burner retrofit by 12/05 under the CD) and uses NGULNBs, this effectively achieves early implementation of the NOx emission reductions sought by the CD. In order to retrofit heater H-20 with NGULNB by 12/31/05, Navajo submitted a significant revision air permit application to NMED on 04/12/05. Since NMED had not completed the application review, a waiver allowing limited construction activities to begin was granted on 10/11/05. Permit 0195-M21, authorizing NGULNB for H-20, was issued by NMED on 11/18/05. An air permit application proposing the installation of NGULNBs in BO-1105 (formerly SG-1101A) and

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Requirements	CD Paragraph	Status/Comment
		BO-1104 (formerly SG-1101B) was submitted to NMED on 12/21/2007. Permit 0273-M7 authorizing the NGULNBs in SG-1101A and SG-1101B was issued by NMED on 05/06/2008. Navajo subsequently decided to replace the existing boilers with new boilers using NGULNBs. Permit 0273-M7-R1 authorizing the replacement boilers was issued by NMED on 10/14/2009. The installation of NGULNB in BO-1105 was completed 06/20/2013. The installation of BO-1104 NGULNB was completed 07/29/2013. H-600: Air permit 0195-M25-R3 authorizing the burner retrofit was issued by NMED on 05/14/08. The retrofit was completed in 02/2009.

3.0 SUMMARY OF ANTICIPATED PROBLEMS IN IMPLEMENTING THE REQUIREMENTS OF SECTION V.

None at this time.

4.0 SUMMARY OF EMISSIONS DATA

- The Boiler B-7 initial performance stack test and CEMS RATA was conducted on 12/18/2002 and the results submitted to the NMED on 01/31/2003.
- The Boiler B-8 initial performance stack test and CEMS RATA was conducted on 10/29/2003 and the results submitted to the NMED on 12/08/2003.
- The Heater H-601 initial performance stack test was conducted on 03/02/2004 and the results were submitted to the NMED on 05/14/2004.
- The Heater H-103 (replacement for H-101) initial performance stack test was conducted on 03/04/2004 and the results were submitted to the NMED on 05/14/2004.
- Data was collected for reporting pursuant to Paragraph 11 (e.g., FCCU NO_x optimization and demonstration period data.) NO_x Additive Demonstration Period report with proposed NO_x concentration-based limits submitted 07/27/2006.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on February 14 and 15, 2006 and the results were submitted to the NMED on 03/15/2006.
- The FCCU Regenerator Scrubber annual PM test was conducted on 02/15/2006 and the results were submitted to the NMED on 03/15/2006.
- Heater H-20 was retrofit with NGULNBs in December 2005. A performance stack test was conducted on 02/16/2006 and the results were submitted to the NMED on 03/23/2006.
- Heaters H-352, H-353, and H-354 (formerly identified as 70-H1/H2/H3) were retrofit with NGULNBs in June 2006. A performance stack test was conducted on 07/11/2006 and the results were submitted to the NMED on 08/15/2006.
- The Boiler B-7 and Boiler B-8 annual CEMS RATAs were conducted on 09/26/2006 and the results submitted to the NMED on 10/17/2006.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/24/2007 and the results were submitted to the NMED on 02/22/2007.

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- The FCCU Regenerator Scrubber annual PM test was conducted on 01/24/2007 and the results were submitted to the NMED on 02/22/2007.
- The Heater H-20 annual performance stack test was conducted on 01/25/2007 and the results were submitted to the NMED on 02/22/2007.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 09/13/2007 and 09/12/2007 respectively, and the results submitted to the NMED on 10/11/2007.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/22/2008 and the results were submitted to the NMED on 02/18/2008.
- The FCCU Regenerator Scrubber annual PM test was conducted on 01/22/2008 and the results were submitted to the NMED on 02/18/2008.
- The Heater H-20 annual performance stack test was conducted on 01/23/2008 and the results were submitted to the NMED on 02/18/2008.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 09/09/2008 and the results submitted to the NMED on 10/09/2008.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 03/03/2009 and the results were submitted to the NMED on 03/30/2009.
- The FCCU Regenerator Scrubber annual PM test was conducted on 03/03/2009 and the results were submitted to the NMED on 03/30/2009.
- Heater H-600 was retrofit with NGULNBs in 02/2009. The Heater H-600 initial performance stack test was conducted on 03/04/2009 and the results were submitted to the NMED on 03/30/2009.
- The Heater H-20 annual performance stack test was conducted on 03/05/2009 and the results were submitted to the NMED on 03/30/2009.
- After adding additional burners, the Heater H-103 (replacement for H-101) performance stack test and NOx CEMS RATA was conducted on 05/21/2009 and the results were submitted to the NMED on 06/22/2009.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 09/17/2009 and the results submitted to the NMED on 10/14/2009.
- The BO-1105 (replacement boiler for Lovington boiler BSG-1101A) initial performance testing was conducted 01/26/2010 and the report submitted to NMED on 02/24/2010.
- The BO-1104 (replacement boiler for Lovington boiler BSG-1101B) initial performance testing was conducted 01/28/2010 and the report submitted to NMED on 02/24/2010.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 03/02 and 03/2010 and the results were submitted to the NMED on 04/05/2010.
- The FCCU Regenerator Scrubber annual PM test was conducted on 03/02 and 03/2010 and the results were submitted to the NMED on 04/05/2010.
- The Heater H-20 annual performance stack test was conducted on 03/04/2010 and the results were submitted to the NMED on 04/05/2010.
- The Heater H-103 (replacement for H-101) NOx CEMS RATA was conducted on 05/19/2010 and 05/20/2010, and the results were submitted to the NMED on 06/16/2010.
- The Boiler B-7and Boiler B-8 annual CEMS RATAs were conducted on 08/24/2010 and the results submitted to the NMED on 09/14/2010.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 03/01/2011 and the results were submitted to the NMED on 03/28/2011.
- The FCCU Regenerator Scrubber annual PM test was conducted on 03/01/2011 and the results were submitted to the NMED on 03/28/2011.
- The Heater H-20 annual performance stack test was conducted on 03/02/2011 and the results were submitted to the NMED on 03/28/2011.

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- The Boiler B-7and Boiler B-8 annual CEMS RATA's were conducted on 08/16/2011 and the results submitted to the NMED on 09/16/2011.
- The Heater H-103 (replacement for H-101) NOx CEMS RATA was conducted on 05/3/2011 and the results were submitted to the NMED on 05/31/2011.
- The Heater H-20 annual performance stack test was conducted on 01/19/2012 and the results were submitted to the NMED on 02/27/2012.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/17/2012. Report showing certification submitted to NMED on 02/17/2012.
- The FCCU Regenerator Scrubber annual PM test was conducted on 01/17/2012. Report showing certification submitted to NMED on 02/17/2012.
- The Heater H-103 (replacement for H-101) NOx CEMS RATA was conducted on 05/24/2012, and the results were submitted to the NMED on 06/20/2012.
- The Boiler B-7and Boiler B-8 annual CEMS RATA's were conducted on 08/15/2012 and the results submitted to the NMED on 09/13/2012.
- The Heater H-20 annual performance stack test was conducted on 01/09/2013 and the results were submitted to the NMED on 02/07/2013.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/08/2013. Report showing certification submitted to NMED on 02/07/2013.
- The FCCU Regenerator Scrubber annual PM test was conducted on 01/08/2013. Report showing certification submitted to NMED on 02/07/2013.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/14/2013, and the results were submitted to the NMED on 06/10/2013.
- The FCCU Regenerator Scrubber annual PM was retested on 03/05/2013. Report showing certification submitted to NMED on 04/01/2013.
- The Boiler B-7annual CEMS RATA's was conducted on 08/07/2013 and the results submitted to the NMED on 09/17/2013.
- The Boiler B-8 annual CEMS RATA's was conducted on 08/06/2013 and the results submitted to the NMED on 09/17/2013.
- The Heater H-20 annual performance stack test was conducted on 01/09/2014 and the results were submitted to the NMED on 02/04/2014.
- The FCCU Regenerator Scrubber annual PM was tested on 01/08/2014. Report showing certification submitted to NMED on 02/04/2014.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/08/2014. Report showing certification submitted to NMED on 02/04/2014.
- After the installation of NGULNB was completed, the BO-1105 (replacement boiler for Lovington boiler BSG-1101A) initial performance testing was conducted 07/12/2013 and the report submitted to NMED on 08/06/2013.
- After the installation of NGULNB was completed, the BO-1104 (replacement boiler for Lovington boiler BSG-1101B) initial performance testing was conducted 09/04/2013 and the report submitted to NMED on 12/05/2013.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/13/2014, and the results were submitted to the NMED on 06/12/2014.
- The Boiler B-7annual CEMS RATA's was conducted on 07/30/2014 and the results submitted to the NMED on 09/11/2014.
- The Boiler B-8 annual CEMS RATA's was conducted on 07/29/2014 and the results submitted to the NMED on 09/11/2014.
- The Heater H-20 annual performance stack test was conducted on 02/17/2015 and the results were submitted to the NMED on 03/09/2015.
- The FCCU Regenerator Scrubber annual PM was tested on 01/06/2015. Report showing certification submitted to NMED on 02/05/2015.

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- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/06/2015. Report showing certification submitted to NMED on 02/05/2015.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/06/2015, and the results were submitted to the NMED on 06/04/2015.
- The Boiler B-7 annual CEMS RATA's was conducted on 07/23/2015 and the results submitted to the NMED on 08/20/2015.
- The Boiler B-8 annual CEMS RATA's was conducted on 07/22/2015 and the results submitted to the NMED on 08/20/2015.
- The Heater H-20 annual performance stack test was conducted on 01/07/2016 and the results were submitted to the NMED on 02/05/2016.
- The FCCU Regenerator Scrubber annual PM was tested on 01/05/2016. Report showing certification submitted to NMED on 02/04/2016.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/05/2016. Report showing certification submitted to NMED on 02/04/2016.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 05/04/2016, and the results were submitted to the NMED on 06/03/2016.
- The Boiler B-7 annual CEMS RATA's was conducted on 07/13/2016 and the results submitted to the NMED on 08/05/2016.
- The Boiler B-8 annual CEMS RATA's was conducted on 07/13/2016 and the results submitted to the NMED on 08/05/2016.
- The Heater H-20 annual performance stack test was conducted on 01/05/2017 and the results were submitted to the NMED on 02/03/2017.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/03/2017. Report showing certification submitted to NMED on 02/03/2017.
- The FCCU Regenerator Scrubber annual PM was conducted on 01/03/2017. Report showing certification submitted to NMED on 02/04/2017.
- The Boiler B-7 annual CEMS RATA's was conducted on 06/21/2017 and the results submitted to the NMED on 06/20/2017.
- The Boiler B-8 annual CEMS RATA's was conducted on 06/21/2017 and the results submitted to the NMED on 06/20/2017.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 04/25/2017, and the results were submitted to the NMED on 05/16/2017.
- The Heater H-20 annual performance stack test was conducted on 01/11/2018 and the results were submitted to the NMED on 02/09/2018.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 01/09/2018. Report showing certification submitted to NMED on 02/09/2018.
- The FCCU Regenerator Scrubber annual PM stack test was conducted on 01/09/2018. Report showing certification submitted to NMED on 02/09/2018.
- The Boiler B-7 annual CEMS RATA's was conducted on 03/06/2018 and the results submitted to the NMED on 03/29/2018.
- The Boiler B-8 annual CEMS RATA's was conducted on 03/07/2018 and the results submitted to the NMED on 03/29/2018.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 02/14/2018, and the results were submitted to the NMED on 03/14/2018.
- The Heater H-20 annual performance stack test was conducted on 02/20/2019 and the results were submitted to the NMED on 03/21/2019.
- The FCCU Regenerator Scrubber CEMS RATA was conducted on 02/13/2019. Report showing certification submitted to NMED on 03/23/2019.
- The FCCU Regenerator Scrubber annual PM stack test was conducted on 02/13/2019. Report showing certification submitted to NMED on 03/23/2019.

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- The Boiler B-7 annual CEMS RATA's was conducted on 03/19/2019 and the results were submitted to the NMED on 04/18/2019.
- The Boiler B-8 annual CEMS RATA's was conducted on 03/19/2019 and the results were submitted to the NMED on 04/18/2019.
- The Heater H-103 (replacement for H-101) NOx and CO CEMS RATA was conducted on 03/05/2019, and the results were submitted to the NMED on 04/08/2019.

Consistent with past reports, any emissions excursions from Consent Decree limits have generally been reported to NMED pursuant to the NSPS, MACT and/or Title V programs semiannually (as well as pursuant to NMED's excess emissions reporting program). We are in this report identifying emissions excursions that occurred in the 2nd quarter 2019 for the emission limits and units below. For the flares at Artesia and Lovington, excess emission information for events occurring during the semiannual period: January-June 2019 will be reported in the semiannual NSPS Ja monitoring report due on July 30, 2019, and will be attached to the 3rd quarter 2019 Consent Decree Progress Report.

Consent Decree Condition V.18.B: SRU SO₂ Emission limits

SRU-2

SO2 250 ppm 12-hr average		
Start Time	End Time	Excess Emissions per Event (lbs)
2019-04-03 10:00	2019-04-03 20:00	10.95
2019-06-14 22:00	2019-06-15 23:00	25.27
2019-06-17 21:00	2019-06-18 09:00	12.16

5. Implementation of ENVIRONMENTALLY beneficial Projects

[Changes from Prior Quarter Italicized]

Paragraph 35 requires certain information to be submitted for each project which has been completed. The projects for Paragraphs 30 and 32 have been completed. The following summarizes the status of the completed and ongoing projects, and highlights actions taken thus far:

A. Section V, Paragraph 29: Refinery-wide Compliance with NSPS Subpart QQQ

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Submit Compliance Plan within 180 days of CD Date of Lodging.	29.A	The plan was submitted on May 29, 2002

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Environmentally Beneficial Project	CD Paragraph	Status/Comment
NSPS QQQ becomes applicable to Artesia and Lovington individual drain systems, oil-water separators, and aggregate facilities by 12/31/03	29.B	Prior to 12/31/03, Navajo began operation of the new covered wastewater separator, completed the bypass of the South Plant API, installed covers on junction boxes and initiated drain inspections for the Artesia refinery. Junction boxes at the Lovington refinery were also covered and the routine inspection of drains (to assure proper water seal) was begun. Navajo otherwise ceased the use of an open culvert for draining oily process wastewater into the sewer. In early September 2010, it was discovered that the storm water catch basin of the Alkylation Unit Tar Pit could still receive some oily-water and therefore could be considered as a junction box. A cover for the storm water basin was designed, constructed, and installed by 11/12/2010. In July 2014, it was discovered that visual inspections were not conducted initially and semiannually as required by 40CFR 60.692-2 (07/11/2014 self-disclosure letter to NMED). Certified Receipt Number: 70073020000030288246). Navajo Started semiannual inspections on 07/01/2015. A third party review of the QQQ program indicated that there may be a potential issue regarding certain aspects of the drain systems at the Artesia and Lovington refineries, in particular, the status of catch basins in these drain systems. Subpart QQQ exempts drain systems that have catch basins in their existing configuration prior to the rule's applicability date. Navajo is nevertheless evaluating the proactive retrofit of these catch basins with covers (inserts), and has initiated a capital project to address this. Retrofit work is in progress and is expected to be completed by the end of calendar year 2020.

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B. Section V, Paragraph 30: Operation of the 40 LTPD SRU (SRU1) on Standby
Artesia SRP (No SRU at Lovington):

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Complete installation of equipment on SRU1 to allow operation in standby service by 12/31/03	30	SRU1 was started up again on 5/10/03 operating at a reduced rate in backup service. A new 100 long ton per day sulfur recovery unit (SRU3) began operating 05/11/2009. The combined capacity of SRU2 and SRU3 provides excess sulfur recovery capacity. Therefore, as an energy and emissions conservation measure, SRU1 is no longer operated in standby service.
Complete study plan on how to limit excess TGU emissions and Acid Gas Flaring by 2/28/04	30	Acid Gas Flaring and TGU Excess Emissions Study Plan submitted 2/27/04. Pursuant to the plan, Navajo completed the study and submitted a 3/24/05 summary of the study including actions taken and recommendations. The study results were used to update the PMO plan with the modified PMO plan included with the 3/24/05 submittal.

C. Section V, Paragraph 31: Installation of Spare FCCU Wet Gas Compressor
Artesia FCCU (No FCCU at Lovington):

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Complete installation of spare wet gas compressor by 12/31/03. Operate so as to minimize the duration of AG or HC flaring incidents during outages of the original compressor.	31	A spare wet gas compressor was installed during the 4 th Quarter of 2003 FCCU turnaround. On 01/07/2011, Navajo's outside legal counsel submitted a request to modify or remove this paragraph. Operating procedures to minimize the duration of AG flaring were updated 04/30/2015. A preventive maintenance plan for the spare compressor C-0950 was completed on 05/11/2015.

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D. Section V, Paragraph 32: Supplemental Environmental Project (SEP) Benefiting the Artesia Community

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Complete implementation of SEP to benefit the Artesia community by June 30, 2003	32	Navajo completed the community SEP prior to the revised 9/29/03 deadline and submitted cost certification data on 9/23/03 pursuant to Paragraph 91. The SEP installed mechanical mixers to replace air mixers on nine asphalt storage tanks to reduce odors. The tanks were T-0110, T-0404, T-0405, T-0406, T-0409, T-0410, T-0428, T-0431, and T-0432. T-0404, T-0405, T-0406, and T-0409, and T-0428 have been permanently removed from service.

E. Section V, Paragraph 33: EMS Baseline Assessment for Artesia Refinery

Environmentally Beneficial Project	CD Paragraph	Status/Comment
Obtain NMED approval for Independent Contractor to perform the baseline assessment	33.C	Completed via letter from NMED dated 4/19/02.
Execute contract with Independent Contractor	33.D	Completed as of 4/15/02
Baseline Assessment Report to be received by Navajo within 210 days of Date of Lodging	33.E	Navajo received the baseline assessment report on 7/17/02.
Navajo to implement recommendations in accordance with the baseline report schedule	33.F	Navajo has accepted the recommendations and schedule deadlines provided in the baseline report (the 8 recommendations are numbered in parenthesis in the discussion below). For the two (i.e., 1A and 5) recommendations with 10/1/02 deadlines, Navajo implemented both on time (i.e., prior to the deadline). The report to file required by CD ¶33.F.ii was completed 12/27/02.
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Navajo did the roll-out of the refinery environmental policy (1B) and put environmental responsibilities (3) into a new specifically developed operator's manual prior to the baseline report recommendation deadline (i.e., 2/1/03 and 3/1/03, respectively).

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Environmentally Beneficial Project	CD Paragraph	Status/Comment
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	The position descriptions (6) which were recommended for Navajo's Environmental Affairs Department staff were prepared and distributed prior to the 7/1/03 deadline. An independent consultant performed an on-site evaluation of Navajo's implementation of the recommendations and prepared a 6/23/03 evaluation report prior to the 6/30/03 deadline.
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Per the independent consultant's June 2003 evaluation report, the 9/1/03 original deadline for the recommended CBT training module (2) was revised to 3/1/04.
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Work commenced in November 2003 on developing the CBT training module (2). The CBT module was completed and rolled out on 2/27/04, thus meeting the 3/1/04 deadline. The decision was made to implement (7) via the electronic option (6/1/04 deadline). Recommendation No. 8A, "Develop Environmental Records Retention Policy and Document Control Procedures" was implemented prior to the 12/1/03 deadline.
Navajo to implement recommendations in accordance with the baseline report schedule – Cont'd	33.F	Completed the evaluation of the LDAR program, process and procedures (4) on 6/3/04 and determined that the program is working as intended. Integrated compliance requirements calendar (7) was implemented prior to the 6/1/04 deadline. Completed work to implement the environmental records management system (8B) during May 2004 with the aid of an outside consultant. The records management system is in place and working. An independent consultant conducted the implementation evaluation presented in a June 30, 2004 report, thus meeting the deadline. A final closure letter on the EMS improvement recommendations was issued September 30, 2004 by the consultant concluding no remaining EMS improvement actions for Navajo.

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6.0 OTHER MATTERS

The recent implementation of flare monitoring requirements under NSPS Ja resulted in the identification and repair of several relief valves that were leaking to the flare. In addition, three flare gas streams with higher sulfur levels were identified as routed to the Lovington flare. These three streams were rerouted to the fuel gas system. As of November 11, 2015, all gas streams currently routed to the flares are being monitored for compliance with the NSPS Ja requirements. Excess emission information for the flares at Artesia and Lovington for the semiannual period: January-June 2016 was included in Attachment 4 to the 3rd quarter 2016 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2016 was included in the semiannual NSPS monitoring report submitted on January 30, 2017, and was attached to the 1st quarter 2017 Consent Decree Progress Report. Excess emission information for events occurring during the semiannual period: January-June 2017 was included in the semiannual NSPS Ja monitoring report submitted on July 28, 2017, and was attached to the 3rd quarter Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: January-June 2018 was included in the semiannual NSPS Ja monitoring report submitted on July 30, 2018, and was attached to the 3rd quarter 2018 Consent Decree Progress Report. The excess emission information for events occurring during the semiannual period: July-December 2018 was included in the semiannual NSPS Ja monitoring report submitted on January 30, 2019. The excess emission information for events occurring during the semiannual period: January-June 2019 will be reported in the semiannual NSPS Ja monitoring report due on July 30, 2019, and will be attached to the 3rd quarter 2019 Consent Decree Progress Report.

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**REPORTS, PLANS AND CERTIFICATIONS
UNDER THE BENZENE WASTE NESHAP ENHANCED PROGRAM
PROVISIONS OF PARAGRAPH 22 OF THE CONSENT DECREE IN
UNITED STATES ET AL. V. NAVAJO REFINING CO. ET AL.**

<u>Name or Summary of the Report, Plan, or Certification</u>	<u>CD Sub-Para No.</u>	<u>Rqd. ("R") v. Contingent ("C")</u>	<u>One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")</u>	<u>Due Date</u>	<u>Status</u>
BWN Compliance Review and Verification Report	C.i.	R	1	270 days after Lodging	Review completed 09/11/2002. Report submitted 10/09/2002
Amended BWN Compliance Review and Verification Report	C.ii.	C	1	90 days after completing additional sampling requested by EPA	Not Yet Applicable. EPA has not requested additional sampling.
Amended TAB Report	D.i	C	1	60 days after completing BWN Compliance Review and Verification Report	An Amended Report for the Artesia Refinery (>1 Mg, <10 Mg) was Submitted 10/09/2002 with the Verification Report
Plan to comply w/ 6 BQ if TAB equals or is greater than 10	D.ii; J.vi.	C	1	180 days after completing BWN Compliance Review and Verification Report	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report

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<u>Name or Summary of the Report, Plan, or Certification</u>	<u>CD Sub-Para No.</u>	<u>Rqd. ("R") v. Contingent ("C")</u>	<u>One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")</u>	<u>Due Date</u>	<u>Status</u>
Compliance Certification	D.iv	C	1	30 days after completing all actions necessary to come into compliance	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report.
Waste/Slop/Off-Spec Oil Schematics	H.i.	R	1	90 days after Lodging	Submitted on 03/19/2002. Revised plan reflecting plant modifications submitted 04/29/2004. Schematics are awaiting written approval by EPA.
Submit revised Waste/Slop/Off-Spec Oil Schematics reflecting agreement with EPA on comments.	H.i.	C	1	Mutually-agreed upon time between Navajo and/or Montana Refining and EPA	Not Applicable until EPA confers with Navajo on the Waste/Slop/Off-Spec Oil Schematics.
Schedule to complete installation of controls on waste management units handling organic benzene waste	H.ii.	C	1	Mutually-agreed upon time between Navajo and/or Montana Refining and EPA, not to exceed 2 years	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report
Plan to quantify uncontrolled waste/slop/off-spec oil movements	H.iv.	R	1	90 days after EPA has approved schematics	Not Applicable until EPA provides written approval of the Waste/Slop/Off-Spec Oil Schematics. Although EPA has not commented on or approved the schematics submitted under paragraph 22.H.i, Navajo has quantified the uncontrolled waste/slop/off-spec oil movements in the annual NESHAP Subpart FF Total Annual Benzene (TAB) report.

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EOL Sampling Plan	I.i; J.ii	C	1	2 months after the 22.D.iii Certification (if TAB is 10 mg/yr or greater); 90 days after submitting final BWN Compliance Review and Verification Report (if TAB is 1 Mg/yr or more but less than 10)	EOL Sampling Plan submitted on 02/06/2003.
EOL Revised Sampling Plan	I.ii; J.ii.	C	As needed	If and when Navajo and/or Montana Refining become aware of factors indicating original plan no longer accurately reflects EOL benzene quantity	Revised EOL Sampling Plan submitted 03/31/2004.
Applicable after refinery TAB exceeds 10 Mg/yr - Plan to ensure that uncontrolled benzene does not equal or exceed, 6 Mg/yr or that it is minimized	I.vii;	C	As needed	30 days after the end of the quarter in which the projected calendar year benzene quantity is equal to or greater than 6 Mg.	Not Applicable unless the Artesia or Lovington Refinery exceeds 10 Mg/yr in the annual TAB report.

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Name or Summary of the Report, Plan, or Certification	CD Sub-Para No.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Applicable if refinery TAB is > 1 but < 10 Mg/yr - Plan to ensure that uncontrolled benzene does not equal or exceed, as applicable, 10 Mg/yr or that it is minimized	J.iv-J.v	C	As needed	30 days after the end of the quarter in which the projected calendar year benzene quantity is equal to or greater than 10 Mg.	The 2007 4th quarter EOL benzene quantity exceeded 2.5 Mg, but the calendar year 2007 TAB did NOT exceed 10 Mg. Because the calendar year is over, and the TAB did not exceed 10 Mg in the calendar year, submittal of a plan to prevent the calendar year TAB from exceeding 10 Mg, as required under ¶ 22.J.iv, becomes moot. As required by ¶ 22.M.ii.a(3), Navajo specifically sought EPA's concurrence with this interpretation but no response has been received. The EOL BQ for the 1st quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr. The required plan was included as a supplement to the 2nd quarter report. Navajo specifically sought EPA's concurrence with this plan but no response has been received. The EOL BQ for the 3rd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr (see Attachment 3). The required plan was included as a supplement to the 3rd quarter report. As required by ¶ 22.M.ii.a(3), Navajo specifically sought EPA's concurrence with this plan but no response has been received. The EOL BQ for the 4th quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr so no plan was required. The EOL BQs for the 1st, 2nd, 3rd and 4th quarters of 2009 were <2.5 Mg and the projected 2009 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2010 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2011 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan is required. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2012 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan is required. The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2013 were each <2.5 Mg

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					and the projected 2012 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st and 2nd quarters of 2014 was <2.5 Mg and the projected 2014 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2014 were <2.5 Mg and the projected 2014 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 4th quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 1st quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2016 exceeded 2.5 Mg but the calendar year 2016 TAB did NOT exceed 10 Mg. As the first two quarters of 2016 indicated significantly lower concentrations of benzene in the wastewater, the projected TAB remained below 10 Mg for the calendar year, and as such no specific actions need to be taken to ensure the TAB does not exceed 10Mg. Regardless of that, however, Navajo developed a plan of targeted monitoring to help identify and address the benzene contributions during the third quarter. The plan was implemented by November 4, 2016 (attachment 4).

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					The EOL BQ for the 4th quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 1st quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr, so no plan was required. The EOL BQ for the 2nd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr, so no plan was required. The EOL BQ for the 3rd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr, so no plan was required. The EOL BQ for the 4th quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr, so no plan was required. The EOL BQ for the 1st quarter of 2019 was <2.5 Mg and the projected TAB for 2019 was <10 Mg/yr, so no plan was required. The EOL BQ for the 2nd quarter of 2019 was <2.5 Mg and the projected TAB for 2019 was <10 Mg/yr, so no plan was required.

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Proposal for Third-Party TAB Study and Compliance Review	I-viii; J.vi	C	1	Last day of 4 th Quarter as set forth in ¶ I.viii. (if TAB is 10 mg/yr or greater); As agreed by EPA and Navajo and/or Montana Refining (if TAB is 1 Mg/yr or more but less than 10)	Not Applicable unless refinery cannot take actions to keep TAB below 10 Mg/yr.
Third-Party TAB Study and Compliance Review	I-viii; J.vi	C	1	30 days after receipt of the Third-Party Study and Compliance Review	Not Applicable unless refinery cannot take actions to keep TAB below 10 Mg/yr.
Plan to implement the results of the Third-Party TAB Study and Compliance Review	J.vi;	C	1	120 days after receipt of the Third-Party TAB Study and Compliance Review	Not Applicable unless refinery cannot take actions to keep TAB below 10 Mg/yr.

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<u>Name or Summary of the Report, Plan, or Certification</u>	<u>CD Sub-Para No.</u>	<u>Rqd. ("R") v. Contingent ("C")</u>	<u>One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")</u>	<u>Due Date</u>	<u>Status</u>
Report on training done in that Quarter	G.i-iii.; Mii-a(1)	C	Q	Each Quarterly Report due under the Consent Decree	A training plan was developed 12/6/02 for the Artesia Refinery (i.e., since its TAB is greater than 1.0 Mg/yr). The first training session was held 1/7/03 at both the Artesia and Lovington refineries. The second training session for the two refineries was held 1/27/04 and 1/28/04. Annual refresher training performed the weeks of 2/8/05, 3/27/06, 3/5/07, 2/25/08 (Lov), 11/07/08 (Art), 12/18/09, 12/17/2010 and 12/20/2011, 11/08/2012, 01/14/2013, 04/18/2013 11/12 to 11/14/2013, 05/24/2014, 06/19/2014, 06/20/2014, 12/02/2014, 3/16/2015, 4/1/2015, 5/15/2015, 2/29/2016, 3/8/2016, 3/17/2016 (Art. and Lov), 02/28/2017 (Artesia and Lovington), 08/29/2017 (Artesia and Lovington), 09/30/2018 (Artesia and Lovington) and 02/28/2019 (Artesia and Lovington).

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 1 TO 2nd QUARTER 2019 STATUS REPORT
APPENDIX G STATUS SUMMARY REPORT

Results of annual sampling of >0.05 Mg/yr benzene streams	J.i; Mii-a(2)	C	Q	In the first Quarterly Report for the first calendar quarter of each year	The annual sampling was performed in February 2005. The results were presented with the first quarter 2005 report. Annual sampling was performed in February 2006. The results were presented in Attachment 4 with the first quarter 2006 report. Annual sampling was performed in September and December 2007. The results were submitted in attachment 4 of the first quarter 2008 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2008. The results were submitted in attachment 4 of the first quarter 2009 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2009. The results were submitted in Attachment 4 of the first quarter 2010 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2010. The results were submitted in Attachment 4 of the first quarter 2011 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2011. The results were submitted in Attachment 4 of the first quarter 2012 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2012. The results were submitted in Attachment 4 of the first quarter 2013 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2013. The results were submitted in Attachment 4 of the first quarter 2014 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2014. The results were submitted in Attachment 4 of the 1st quarter 2015 report as required by ¶22.M.ii.a(2).
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HollyFrontier Navajo Refining LLC
Artesia and Lovington Refineries

ATTACHMENT 1 TO 2nd QUARTER 2019 STATUS REPORT
APPENDIX G STATUS SUMMARY REPORT

Results of annual sampling of >0.05 Mg/yr benzene streams	J.i; Mii-a(2)	C	Q	In the first Quarterly Report for the first calendar quarter of each year	Annual sampling was performed in December 2015. The results were included in Attachment 4 of the 1st quarter 2016 report as required by ¶22.M.ii.a(2). Annual sampling was performed in October 2016. The results were included in Attachment 4 of the 1st quarter 2017 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2017. The results were included in Attachment 4 of the 1st quarter 2018 report as required by ¶22.M.ii.a(2). Annual sampling was performed in December 2018. The results are included in the 1st quarter 2019 report as required by ¶22.M.ii.a(2).
Results of Quarterly EOL Sampling	J.iii; M.ii.a(3); M.ii-b(2)	C	Q	Each Quarterly Report due under the Consent Decree (after written EPA approval of EOL sampling plan)	2004: Under the assumption that the sampling plan was accepted by EPA upon the 03/31/2004 submittal of the revised EOL Sampling Plan, Navajo conducted its first EOL sampling during the week of 3/22/04. The annual TAB, submitted 4/05 was 4.9 Mg for Artesia and 1.5 Mg for Lovington. 2005: The EOL benzene quantity (BQ) for the 1st, 2nd, 3rd, and 4th quarter of 2005 were each <2.5 Mg. 2006: The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2006 were each <2.5 Mg. 2007: The 1st, 2nd, and 3rd quarter 2007 EOL BQs were each < 2.5 Mg. The 2007 4th quarter EOL benzene quantity exceeded 2.5 Mg, but the calendar year 2007 TAB did NOT exceed 10 Mg. 2008: The EOL BQ for the 1st quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr. The EOL BQ for the 2nd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr. The EOL BQ for the 3rd quarter of 2008 was > 2.5 Mg and the projected tab was > 10 Mg/yr. The EOL BQ for the 4th quarter of 2008 was <2.5 Mg and the projected 2008 TAB was < 10 Mg/yr. 2009: The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2009 were <2.5 Mg and the projected 2009 TAB was < 10 Mg/yr so no plan was required. 2010: The EOL BQ for the 1st, 2nd, 3rd, and 4th quarters of 2010 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan was required. 2011: The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2011 was <2.5 Mg and the projected 2010 TAB was < 10 Mg/yr so no plan is required.

HollyFrontier Navajo Refining LLC
Artesia and Lovington Refineries

ATTACHMENT 1 TO 2nd QUARTER 2019 STATUS REPORT
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					2012: The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2012 was <2.5 Mg and the projected 2012 TAB was < 10 Mg/yr so no plan is required. 2013: The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2013 was <2.5 Mg and the projected 2012 TAB was < 10 Mg/yr so no plan is required. 2014: The EOL BQ for the 1st, 2nd, 3rd and 4th quarters of 2014 were <2.5 Mg and the projected 2014 TAB was < 10 Mg/yr so no plan was required. 2015: The EOL BQ for the 1st quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 4th quarter of 2015 was <2.5 Mg and the projected 2015 TAB was < 10 Mg/yr so no plan was required. 2016: The EOL BQ for the 1st quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 2nd quarter of 2016 was <2.5 Mg and the projected 2016 TAB was < 10 Mg/yr so no plan was required. The EOL BQ for the 3rd quarter of 2016 exceeded 2.5 Mg. As required by paragraph 22.J.iv, Navajo submits the following plan that identifies the specific actions that will be taken, and the schedule for such actions, to ensure the TAB does not exceed 10Mg in the calendar year. As the first two quarters of 2016 indicated significantly lower concentrations of benzene in the wastewater, the projected TAB remained below 10 Mg for the calendar year, and as such no specific actions need to be taken to ensure the TAB does not exceed 10Mg. Regardless of that, however, Navajo developed a plan of targeted monitoring to help identify and address the benzene contributions during the third quarter. The plan was implemented by November 4, 2016 (attachment 4). The EOL BQ for the 4th quarter of 2016 was <2.5 Mg and the projected TAB for 2016 was <10 Mg/yr. 2017: The EOL BQ for the 1st quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr.
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HollyFrontier Navajo Refining LLC
Artesia and Lovington Refineries

ATTACHMENT 1 TO 2nd QUARTER 2019 STATUS REPORT
APPENDIX G STATUS SUMMARY REPORT

					The EOL BQ for the 3rd quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2017 was <2.5 Mg and the projected TAB for 2017 was <10 Mg/yr. 2018: The EOL BQ for the 1st quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 3rd quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. The EOL BQ for the 4th quarter of 2018 was <2.5 Mg and the projected TAB for 2018 was <10 Mg/yr. 2019: The EOL BQ for the 1st quarter of 2019 was <2.5 Mg and the projected TAB for 2019 was <10 Mg/yr. The EOL BQ for the 2nd quarter of 2019 was <2.5 Mg and the projected TAB for 2019 was <10 Mg/yr.
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ATTACHMENT 2

APPENDIX H SUMMARY REPORTS

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 2nd QUARTER 2019 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

**REPORTS, PLANS AND CERTIFICATIONS
 UNDER THE LDAR ENHANCED PROGRAM
 PROVISIONS OF PARAGRAPH 23 OF THE CONSENT DECREE IN
 UNITED STATES, ET AL. V. NAVAJO REFINING CO., ET AL.**

<u>Name or Summary of the Report, Plan, or Certification</u>	<u>CD Sub-¶ Nos.</u>	<u>Rqd. ("R") v. Cont- ingent ("C")</u>	<u>One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")</u>	<u>Due Date</u>	<u>Status</u>
Written Refinery- Wide LDAR Program	A; O.i.a	R	1	150 D after Lodging	Prepared by 4/19/02 and Submitted 5/13/02
Updated Refinery- Wide LDAR Program	A	C	1	As needed	LDAR plan updated 11/19/2009, 01/05/2011, 04/28/2014 (approved 7/22/2014).

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

ATTACHMENT 2 TO 2nd QUARTER 2019 STATUS REPORT
APPENDIX H STATUS SUMMARY REPORT

Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Report on training for new LDAR personnel	B.i; O.ii-c(1)	R	>1	In each Section 63.654 Report	Training addressed in 63.654 Report submitted 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011 06/08/2011, 07/10/2012, 09/10/12, 11/06/2012, 12/11/2012, 01/13/2013, 05/02/2013, 05/08/2013, 05/15/2013, 02/08/2013 03/09/2013 and 09/16/2014 (for Artesia and Lovington). New hire training was conducted 06/08/2011, 07/10/2012, 09/10/12, 11/06/2012, 12/11/2012, 01/13/2013, 05/02/2013, 05/08/2013, 05/15/2013, 02/08/2013, 12/9/2013, 03/22/2014, 03/31/2014, 04/01/2014, 06/18/14, 06/19/14, and 06/20/2014. Annual LDAR Computer Based Training (CBT) implemented during the fourth quarter 2014. First training completed before 12/31/2014. Annual CBT for new personnel completed during 2015. Annual CBT completed in 2016; additional training on 4/28/2016, 05/11/2016. Annual CBT completed in 2017; additional training on 04/13/2017, 04/25/2017, 05/20/2017, 12/01/2017. Annual CBT completed during 2018, additional training on 01/2018, 02/2018, and 03/2018. 2019 training on 01/08/2019, 01/11/2019, 02/20/2019, 03/05/2019, and 03/22/2019.

HollyFrontier Navajo Refining LLC
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Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Report on annual training for LDAR personnel	B.ii; O.ii-c(1)	R	>1	In each Section 63.654 Report	Training addressed in 63.654 Report submitted 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, (for Artesia and Lovington). Annual training was conducted on the following dates by the on-site LDAR contractor: 06/29/2011, 06/14/2012, 06/24/2013, 06/26/2013, 11/12 to 11/14/2013, 01/12/2014, 01/16/2014, 01/20/2014, 01/21/2014, 02/08/2014, 02/10/2014, 6/18/2014, 6/19/2014, and 06/20/2014. <i>Annual LDAR Computer Based Training (CBT) implemented during the fourth quarter 2014 for all refinery and contractor personnel. Annual CBT conducted during 2015. Annual CBT in 2016; additional 2016 training on 1/3/2016, 1/6/2016, 1/14/2016, and 1/19/2016, 1/31/2016, 04/28/2016, 05/11/2016, 09/2016, 10/2016, 11/2016, and 12/2016. Annual CBT in 2017; additional training on 04/13/2017, 04/25/2017, 05/20/2017, 12/01/2017. Annual CBT in 2018; additional training on 01/2018, 02/2018, 03/2018, 4/2019.</i>

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Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Report on LDAR training for refinery and operations personnel who hold positions relevant to LDAR	B.iii; O.ii-c(1)	R	>1	In each Section 63.654 Report	Initial training program implemented. Training addressed in 63.654 Report submitted 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington), 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011, 03/14/2012 and 09/16/2013. Training was conducted on the following dates for refinery environmental personnel: 11/06/2012, 08/13 - 08/15/2013, 05/19 - 5/21/2014, 8/21/2014, 10/02/2014 . Annual LDAR Computer Based Training (CBT) implemented during the fourth quarter 2014 for all refinery and contractor personnel. Annual CBT in 2015. Annual CBT in 2016; additional training on 1/3/2016, 1/6/2016, 1/14/2016, and 1/19/2016, 1/31/2016, 04/28/2016, and 05/11/2016. Annual CBT in 2017; additional training on 04/13/2017, 04/25/2017, 05/20/2017, 12/01/2017. Annual CBT in 2018; additional training on 01/2018, 02/2018, and 03/2018.

HollyFrontier Navajo Refining LLC
Artesia and Lovington Refineries

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Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
LDAR audit reports and records of corrective actions. <i>Audits are required every two years.</i>	D; O.ii-b.	R	>1	In the Quarterly Report for the 1 st calendar Quarter of each year	Included in the 1st Qtr 2003 report (submitted 04/17/2003) as Attachment 3. 3rd party audits for Artesia and Lovington were performed during December 2004, January 2007, January 2009, and January 2011. Included in the 1st Qtr 2012 report, a copy of the 01/2011 Audit Report and the corrective actions taken were included with the 1st Quarter 2012 report as Attachment 5. The 2013 3rd party audit was conducted from 09/16 to 09/20/2013, after major refinery turnaround, and a complete quarter worth of normal operation data has been collected for comparative monitoring. A copy of the audit report and resolutions were presented in the 1st Quarter 2014 report. 3rd party audits for Artesia and Lovington were performed during the week of October 5th to 9th, 2015. A copy of the 2015 LDAR 3rd party audit report and resolutions are included in Attachment 5 of the 1st Quarter 2016 report. The 2017 LDAR 3rd party audit was conducted from 05/17 to 05/18/2017. A copy of the audit report was attached to the 3rd Quarter Consent Decree Progress Report. The audit resolutions were included as Attachment 5 to the 1st Quarter 2018 report. The 2019 LDAR 3rd party audit was conducted from 04/29 to 05/03/2019.

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

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Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Certification of implementation of the first attempt at repair program	G; O.ii-a(1)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002
Operational specifications for electronic LDAR data collection and transfer	I.ii.; O.i-b	R	1	6 mos. after Lodging for Navajo; 1 yr. after Lodging for Montana Refining	Submitted 06/19/2002
Certification of implementation of QA/QC procedures for review of data generated by LDAR monitoring technicians	J; O.ii-a(2)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due.	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002.

HollyFrontier Navajo Refining LLC
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Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
Identification of each Refinery's LDAR "point" person	K; O.ii-a(3)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002
Certification of the development of a tracking program for new valves and pumps	L; O.ii-a(4)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the rqmt. becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

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<u>Name or Summary of the Report, Plan, or Certification</u>	<u>CD Sub-¶ Nos.</u>	<u>Rqd. ("R") v. Contingent ("C")</u>	<u>One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")</u>	<u>Due Date</u>	<u>Status</u>
Certification of implementation of calibration drift assessment procedures	M; O.ii-a(5)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the requirement becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002
Certification of implementation of the "delay of repair" procedures	N; O.ii-a(6)	R	1	In the first Qtrly report due under the CD or the first Qtrly report in which the requirement becomes due	Provided with Initial Quarterly Status Report submitted for 2 nd Quarter 2002 on July 30, 2002

HollyFrontier Navajo Refining LLC
 Artesia and Lovington Refineries

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Name or Summary of the Report, Plan, or Certification	CD Sub-¶ Nos.	Rqd. ("R") v. Contingent ("C")	One-Time ("1") v. Quarterly or w/ §63.654 Reports (">1")	Due Date	Status
LDAR monitoring report submitted with MACT periodic reports	O; O.ii-c(2)	R	>1	In each Section 63.654 Report	Provided in MACT 63.654 Reports submitted: 3/15/02, 9/13/02, 3/15/03, 9/15/03, 3/15/04, 9/15/04, 3/14/05 (3/15/05 for Lovington 9/13/05 (9/15/05 for Lovington), 3/17/06, 9/13/06 (9/6/06 for Lovington), 3/16/07, 09/14/07, 03/17/08, 09/12/08, 03/16/09, 08/27/09, 03/16/2010, 09/13/2010, 03/16/2011, 09/15/2011, 03/09/2012, 0/06/2012 (09/06/2012 for Lovington), and 03/15/2013, 09/16/2013, (Lovington and Artesia) 02/25/2014 (Artesia), 08/26/2014 (Lovington), and 02/26/2015 (Artesia and Lovington), 08/27/2015, 2/18/2016 (Artesia and Lovington), 08/29/2016 (Artesia and Lovington), 02/28/2017 (Artesia and Lovington), 08/29/2017 (Artesia and Lovington), 08/30/2018 (Artesia and Lovington), and 02/28/2019 (Artesia and Lovington)



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April 17, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19040619**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 9 sample(s) on Apr 09, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Corey Grandits
Project Manager

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19040619

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19040619-01	S-1 (API HC)	Liquid		08-Apr-2019 09:04	09-Apr-2019 12:54	☐
HS19040619-02	S-3 (API Water)	Liquid		08-Apr-2019 09:15	09-Apr-2019 12:54	☐
HS19040619-03	S-5 (T-40)	Liquid		08-Apr-2019 08:42	09-Apr-2019 12:54	☐
HS19040619-04	S-6 (T-41)	Liquid		08-Apr-2019 08:47	09-Apr-2019 12:54	☐
HS19040619-05	Field Blank	Water		08-Apr-2019 09:09	09-Apr-2019 12:54	☐
HS19040619-06	EQ Blank Port 1	Water		08-Apr-2019 09:45	09-Apr-2019 12:54	☐
HS19040619-07	EQ Blank Port 2	Water		08-Apr-2019 09:45	09-Apr-2019 12:54	☐
HS19040619-08	Duplicate	Liquid		08-Apr-2019 00:00	09-Apr-2019 12:54	☐
HS19040619-09	Trip Blank	Water		08-Apr-2019 00:00	09-Apr-2019 12:54	☐

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19040619

CASE NARRATIVE**GCMS Volatiles by Method SW8260****Batch ID: R336593****Sample ID: S-6 (T-41) (HS19040619-04)**

- Surrogate failure for HS19040619-04 due to sample matrix.

Batch ID: R336576

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R336631

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R336662**Sample ID: HS19040747-02MS**

- MS and MSD are for an unrelated sample.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-1 (API HC)
 Collection Date: 08-Apr-2019 09:04

ANALYTICAL REPORT

WorkOrder:HS19040619
 Lab ID:HS19040619-01
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260				Analyst: WLR	
Benzene	35		0.50	5.0	mg/Kg	1000	16-Apr-2019 15:46
Surr: 1,2-Dichloroethane-d4	103			70-126	%REC	1000	16-Apr-2019 15:46
Surr: 4-Bromofluorobenzene	98.6			70-130	%REC	1000	16-Apr-2019 15:46
Surr: Dibromofluoromethane	95.2			70-130	%REC	1000	16-Apr-2019 15:46
Surr: Toluene-d8	101			70-130	%REC	1000	16-Apr-2019 15:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-3 (API Water)
 Collection Date: 08-Apr-2019 09:15

ANALYTICAL REPORT

WorkOrder:HS19040619
 Lab ID:HS19040619-02
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method:SW8260					Analyst: AKP	
Benzene	2.0		0.030	0.25	mg/L	50	15-Apr-2019 23:37
Surr: 1,2-Dichloroethane-d4	86.1			70-126	%REC	50	15-Apr-2019 23:37
Surr: 4-Bromofluorobenzene	96.4			82-124	%REC	50	15-Apr-2019 23:37
Surr: Dibromofluoromethane	90.1			77-123	%REC	50	15-Apr-2019 23:37
Surr: Toluene-d8	100			82-127	%REC	50	15-Apr-2019 23:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-5 (T-40)
 Collection Date: 08-Apr-2019 08:42

ANALYTICAL REPORT
 WorkOrder: HS19040619
 Lab ID: HS19040619-03
 Matrix: Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C	Method: SW8260						Analyst: WLR
Benzene	0.30		0.024	0.24	mg/Kg	50	15-Apr-2019 19:59
<i>Surr: 1,2-Dichloroethane-d4</i>	107			70-126	%REC	50	15-Apr-2019 19:59
<i>Surr: 4-Bromofluorobenzene</i>	99.9			70-130	%REC	50	15-Apr-2019 19:59
<i>Surr: Dibromofluoromethane</i>	71.9			70-130	%REC	50	15-Apr-2019 19:59
<i>Surr: Toluene-d8</i>	106			70-130	%REC	50	15-Apr-2019 19:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-6 (T-41)
 Collection Date: 08-Apr-2019 08:47

ANALYTICAL REPORT
 WorkOrder: HS19040619
 Lab ID: HS19040619-04
 Matrix: Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method: SW8260		Analyst: WLR			
Benzene	0.36		0.024	0.24	mg/Kg	50	15-Apr-2019 20:24
Surr: 1,2-Dichloroethane-d4	104			70-126	%REC	50	15-Apr-2019 20:24
Surr: 4-Bromofluorobenzene	96.6			70-130	%REC	50	15-Apr-2019 20:24
Surr: Dibromofluoromethane	68.2	S		70-130	%REC	50	15-Apr-2019 20:24
Surr: Toluene-d8	102			70-130	%REC	50	15-Apr-2019 20:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Field Blank
 Collection Date: 08-Apr-2019 09:09

ANALYTICAL REPORT
 WorkOrder:HS19040619
 Lab ID:HS19040619-05
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method:SW8260						Analyst: AKP
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	13-Apr-2019 17:28
Surr: 1,2-Dichloroethane-d4	88.3			70-126	%REC	1	13-Apr-2019 17:28
Surr: 4-Bromofluorobenzene	95.9			82-124	%REC	1	13-Apr-2019 17:28
Surr: Dibromofluoromethane	93.1			77-123	%REC	1	13-Apr-2019 17:28
Surr: Toluene-d8	97.1			82-127	%REC	1	13-Apr-2019 17:28

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 1
 Collection Date: 08-Apr-2019 09:45

ANALYTICAL REPORT

WorkOrder:HS19040619
 Lab ID:HS19040619-06
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method:SW8260						Analyst: AKP
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	13-Apr-2019 17:53
Surr: 1,2-Dichloroethane-d4	89.0			70-126	%REC	1	13-Apr-2019 17:53
Surr: 4-Bromofluorobenzene	95.0			82-124	%REC	1	13-Apr-2019 17:53
Surr: Dibromofluoromethane	91.4			77-123	%REC	1	13-Apr-2019 17:53
Surr: Toluene-d8	97.8			82-127	%REC	1	13-Apr-2019 17:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 2
 Collection Date: 08-Apr-2019 09:45

ANALYTICAL REPORT
 WorkOrder: HS19040619
 Lab ID: HS19040619-07
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method: SW8260						Analyst: AKP
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	13-Apr-2019 18:18
Surr: 1,2-Dichloroethane-d4	87.1			70-126	%REC	1	13-Apr-2019 18:18
Surr: 4-Bromofluorobenzene	96.7			82-124	%REC	1	13-Apr-2019 18:18
Surr: Dibromofluoromethane	91.3			77-123	%REC	1	13-Apr-2019 18:18
Surr: Toluene-d8	98.5			82-127	%REC	1	13-Apr-2019 18:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Duplicate
 Collection Date: 08-Apr-2019 00:00

ANALYTICAL REPORT
 WorkOrder:HS19040619
 Lab ID:HS19040619-08
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method:SW8260		Analyst: AKP			
Benzene	1.7		0.030	0.25	mg/L	50	16-Apr-2019 00:02
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>86.3</i>			<i>70-126</i>	<i>%REC</i>	<i>50</i>	<i>16-Apr-2019 00:02</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>96.0</i>			<i>82-124</i>	<i>%REC</i>	<i>50</i>	<i>16-Apr-2019 00:02</i>
<i>Surr: Dibromofluoromethane</i>	<i>90.7</i>			<i>77-123</i>	<i>%REC</i>	<i>50</i>	<i>16-Apr-2019 00:02</i>
<i>Surr: Toluene-d8</i>	<i>99.4</i>			<i>82-127</i>	<i>%REC</i>	<i>50</i>	<i>16-Apr-2019 00:02</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Trip Blank
 Collection Date: 08-Apr-2019 00:00

ANALYTICAL REPORT
 WorkOrder:HS19040619
 Lab ID:HS19040619-09
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method:SW8260						Analyst: AKP
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	13-Apr-2019 18:43
Surr: 1,2-Dichloroethane-d4	88.0			70-126	%REC	1	13-Apr-2019 18:43
Surr: 4-Bromofluorobenzene	95.8			82-124	%REC	1	13-Apr-2019 18:43
Surr: Dibromofluoromethane	93.0			77-123	%REC	1	13-Apr-2019 18:43
Surr: Toluene-d8	98.8			82-127	%REC	1	13-Apr-2019 18:43

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

WEIGHT LOG

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19040619

Batch ID: 3015 **Method:** VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS19040619-01	1	5.033 (g)	5 (mL)	0.99	Bulk (5030B)
HS19040619-03	1	5.171 (g)	5 (mL)	0.97	Bulk (5030B)
HS19040619-04	1	5.123 (g)	5 (mL)	0.98	Bulk (5030B)

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19040619

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R336576		Test Name : VOLATILES - SW8260C		Matrix: Water		
HS19040619-05	Field Blank	08 Apr 2019 09:09			13 Apr 2019 17:28	1
HS19040619-06	EQ Blank Port 1	08 Apr 2019 09:45			13 Apr 2019 17:53	1
HS19040619-07	EQ Blank Port 2	08 Apr 2019 09:45			13 Apr 2019 18:18	1
HS19040619-09	Trip Blank	08 Apr 2019 00:00			13 Apr 2019 18:43	1
Batch ID R336593		Test Name : VOLATILES BY SW8260C		Matrix: Liquid		
HS19040619-03	S-5 (T-40)	08 Apr 2019 08:42			15 Apr 2019 19:59	50
HS19040619-04	S-6 (T-41)	08 Apr 2019 08:47			15 Apr 2019 20:24	50
Batch ID R336631		Test Name : VOLATILES BY SW8260C		Matrix: Liquid		
HS19040619-01	S-1 (API HC)	08 Apr 2019 09:04			16 Apr 2019 15:46	1000
Batch ID R336662		Test Name : VOLATILES - SW8260C		Matrix: Liquid		
HS19040619-02	S-3 (API Water)	08 Apr 2019 09:15			15 Apr 2019 23:37	50
HS19040619-08	Duplicate	08 Apr 2019 00:00			16 Apr 2019 00:02	50

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19040619

QC BATCH REPORT NEW

Batch ID: R336576 (0) Instrument: VOA9 Method: VOLATILES - SW8260C

MBLK	Sample ID: VBLKW-041219			Units: ug/L		Analysis Date: 13-Apr-2019 14:09			
Client ID:	Run ID: VOA9_336576			SeqNo: 5035184		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	44.32	0	50	0	88.6	70 - 130			
Surr: 4-Bromofluorobenzene	48.5	0	50	0	97.0	82 - 115			
Surr: Dibromofluoromethane	45.96	0	50	0	91.9	73 - 126			
Surr: Toluene-d8	49.83	0	50	0	99.7	81 - 120			

LCS	Sample ID: VLCSW1-190413	Units: ug/L	Analysis Date: 13-Apr-2019 13:19						
Client ID:	Run ID: VOA9_336576	SeqNo: 5035183	PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Benzene	20.08	5.0	20	0	100	74 - 120			
Surr: 1,2-Dichloroethane-d4	44.3	0	50	0	88.6	70 - 130			
Surr: 4-Bromofluorobenzene	49.82	0	50	0	99.6	82 - 115			
Surr: Dibromofluoromethane	48.17	0	50	0	96.3	73 - 126			
Surr: Toluene-d8	49.48	0	50	0	99.0	81 - 120			

MS	Sample ID: HS19040376-01MS	Units: ug/L	Analysis Date: 13-Apr-2019 20:22						
Client ID:	Run ID: VOA9_336576	SeqNo: 5035199	PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Benzene	17.94	5.0	20	0	89.7	70 - 127			
Surr: 1,2-Dichloroethane-d4	43.48	0	50	0	87.0	70 - 126			
Surr: 4-Bromofluorobenzene	49.48	0	50	0	99.0	82 - 124			
Surr: Dibromofluoromethane	47.55	0	50	0	95.1	77 - 123			
Surr: Toluene-d8	49.63	0	50	0	99.3	82 - 127			

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19040619

QC BATCH REPORT NEW

Batch ID: R336576 (0)		Instrument: VOA9		Method: VOLATILES - SW8260C						
MSD	Sample ID: HS19040376-01MSD		Units: ug/L		Analysis Date: 13-Apr-2019 20:47					
Client ID:	Run ID: VOA9_336576		SeqNo: 5035200		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	17.05	5.0	20	0	85.2	70 - 127	17.94	5.12	20	
Surr: 1,2-Dichloroethane-d4	44.03	0	50	0	88.1	70 - 126	43.48	1.28	20	
Surr: 4-Bromofluorobenzene	49.47	0	50	0	98.9	82 - 124	49.48	0.0222	20	
Surr: Dibromofluoromethane	48.12	0	50	0	96.2	77 - 123	47.55	1.18	20	
Surr: Toluene-d8	49.37	0	50	0	98.7	82 - 127	49.63	0.538	20	
The following samples were analyzed in this batch:		HS19040619-05	HS19040619-06	HS19040619-07	HS19040619-09					

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19040619

QC BATCH REPORT NEW

Batch ID: R336593 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C						
MBLK	Sample ID: MBLKW1-041519	Units: ug/Kg		Analysis Date: 15-Apr-2019 14:09						
Client ID:	Run ID: VOA8_336593	SeqNo: 5035772		PrepDate:		DF: 50				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	< 25	250								
Surr: 1,2-Dichloroethane-d4	2348	0	2500	0	93.9	76 - 125				
Surr: 4-Bromofluorobenzene	2298	0	2500	0	91.9	80 - 120				
Surr: Dibromofluoromethane	2340	0	2500	0	93.6	80 - 119				
Surr: Toluene-d8	2427	0	2500	0	97.1	81 - 118				

LCS	Sample ID: VLCSW1-041519	Units: ug/Kg		Analysis Date: 15-Apr-2019 13:19						
Client ID:	Run ID: VOA8_336593	SeqNo: 5035771		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	45.48	5.0	50	0	91.0	75 - 124				
Surr: 1,2-Dichloroethane-d4	50.17	0	50	0	100	76 - 125				
Surr: 4-Bromofluorobenzene	52.57	0	50	0	105	80 - 120				
Surr: Dibromofluoromethane	50.84	0	50	0	102	80 - 119				
Surr: Toluene-d8	50.53	0	50	0	101	81 - 118				

MS	Sample ID: HS19040330-01MS	Units: ug/Kg		Analysis Date: 15-Apr-2019 16:14						
Client ID:	Run ID: VOA8_336593	SeqNo: 5036542		PrepDate:		DF: 50000				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1845000	240000	2.425e+006	0	76.1	70 - 130				
Surr: 1,2-Dichloroethane-d4	2569000	0	2.425e+006	0	106	70 - 126				
Surr: 4-Bromofluorobenzene	2277000	0	2.425e+006	0	93.9	70 - 130				
Surr: Dibromofluoromethane	2509000	0	2.425e+006	0	103	70 - 130				
Surr: Toluene-d8	2399000	0	2.425e+006	0	98.9	70 - 130				

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19040619

QC BATCH REPORT NEW

Batch ID: R336593 (0) Instrument: VOA8 Method: VOLATILES BY SW8260C

MSD	Sample ID: HS19040330-01MSD			Units: ug/Kg		Analysis Date: 15-Apr-2019 16:39			
Client ID:	Run ID: VOA8_336593			SeqNo: 5036543		PrepDate:		DF: 50000	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	2171000	240000	2.425e+006	0	89.5	70 - 130	1845000	16.2	30
Surr: 1,2-Dichloroethane-d4	2539000	0	2.425e+006	0	105	70 - 126	2569000	1.17	30
Surr: 4-Bromofluorobenzene	2410000	0	2.425e+006	0	99.4	70 - 130	2277000	5.7	30
Surr: Dibromofluoromethane	2534000	0	2.425e+006	0	105	70 - 130	2509000	1.01	30
Surr: Toluene-d8	2363000	0	2.425e+006	0	97.4	70 - 130	2399000	1.51	30

The following samples were analyzed in this batch: HS19040619-03 HS19040619-04

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19040619

QC BATCH REPORT NEW

Batch ID: R336631 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C					
MBLK	Sample ID: MBLKW1-041619	Units: ug/Kg		Analysis Date: 16-Apr-2019 09:31					
Client ID:	Run ID: VOA8_336631	SeqNo: 5036467		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2461	0	2500	0	98.4	76 - 125			
Surr: 4-Bromofluorobenzene	2378	0	2500	0	95.1	80 - 120			
Surr: Dibromofluoromethane	2338	0	2500	0	93.5	80 - 119			
Surr: Toluene-d8	2511	0	2500	0	100	81 - 118			

LCS	Sample ID: VLCSW1-041619	Units: ug/Kg		Analysis Date: 16-Apr-2019 08:41					
Client ID:	Run ID: VOA8_336631	SeqNo: 5036466		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	43.8	5.0	50	0	87.6	75 - 124			
Surr: 1,2-Dichloroethane-d4	51.57	0	50	0	103	76 - 125			
Surr: 4-Bromofluorobenzene	49.59	0	50	0	99.2	80 - 120			
Surr: Dibromofluoromethane	50.04	0	50	0	100	80 - 119			
Surr: Toluene-d8	50.39	0	50	0	101	81 - 118			

MS	Sample ID: HS19040609-01MS	Units: ug/Kg		Analysis Date: 16-Apr-2019 16:11					
Client ID:	Run ID: VOA8_336631	SeqNo: 5038071		PrepDate:		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	2017	250	2525	0	79.9	70 - 130			
Surr: 1,2-Dichloroethane-d4	2565	0	2525	0	102	70 - 126			
Surr: 4-Bromofluorobenzene	2428	0	2525	0	96.2	70 - 130			
Surr: Dibromofluoromethane	2540	0	2525	0	101	70 - 130			
Surr: Toluene-d8	2506	0	2525	0	99.2	70 - 130			

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19040619

QC BATCH REPORT NEW

Batch ID: R336631 (0) Instrument: VOA8 Method: VOLATILES BY SW8260C

MSD	Sample ID: HS19040609-01MSD	Units: ug/Kg			Analysis Date: 16-Apr-2019 16:36				
Client ID:	Run ID: VOA8_336631			SeqNo: 5038072		PrepDate:		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	2038	250	2525	0	80.7	70 - 130	2017	1.03	30
Surr: 1,2-Dichloroethane-d4	2522	0	2525	0	99.9	70 - 126	2565	1.66	30
Surr: 4-Bromofluorobenzene	2370	0	2525	0	93.8	70 - 130	2428	2.43	30
Surr: Dibromofluoromethane	2536	0	2525	0	100	70 - 130	2540	0.166	30
Surr: Toluene-d8	2428	0	2525	0	96.2	70 - 130	2506	3.15	30

The following samples were analyzed in this batch: HS19040619-01

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19040619

QC BATCH REPORT NEW

Batch ID: R336662 (0) Instrument: VOA9 Method: VOLATILES - SW8260C

MBLK	Sample ID: VBLKW-190415		Units: ug/L		Analysis Date: 15-Apr-2019 19:27				
Client ID:	Run ID: VOA9_336662		SeqNo: 5036958		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	43.89	0	50	0	87.8	70 - 130			
Surr: 4-Bromofluorobenzene	48.12	0	50	0	96.2	82 - 115			
Surr: Dibromofluoromethane	46.65	0	50	0	93.3	73 - 126			
Surr: Toluene-d8	49.09	0	50	0	98.2	81 - 120			

LCS	Sample ID: VLCSW-190415	Units: ug/L	Analysis Date: 15-Apr-2019 18:38						
Client ID:	Run ID: VOA9_336662	SeqNo: 5036957	PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Benzene	17.87	5.0	20	0	89.3	74 - 120			
Surr: 1,2-Dichloroethane-d4	42.9	0	50	0	85.8	70 - 130			
Surr: 4-Bromofluorobenzene	49.22	0	50	0	98.4	82 - 115			
Surr: Dibromofluoromethane	47.12	0	50	0	94.2	73 - 126			
Surr: Toluene-d8	49.12	0	50	0	98.2	81 - 120			

MS	Sample ID: HS19040747-02MS			Units: ug/L		Analysis Date: 15-Apr-2019 22:23			
Client ID:	Run ID: VOA9_336662			SeqNo: 5036965		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	3331	5.0	20	2501	4150	70 - 127			SEO
Surr: 1,2-Dichloroethane-d4	38.82	0	50	0	77.6	70 - 126			
Surr: 4-Bromofluorobenzene	47.38	0	50	0	94.8	82 - 124			
Surr: Dibromofluoromethane	46.92	0	50	0	93.8	77 - 123			
Surr: Toluene-d8	45.78	0	50	0	91.6	82 - 127			

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19040619

QC BATCH REPORT NEW

Batch ID: R336662 (0) Instrument: VOA9 Method: VOLATILES - SW8260C

MSD Sample ID: HS19040747-02MSD Units: ug/L Analysis Date: 15-Apr-2019 22:48

Client ID: Run ID: VOA9_336662 SeqNo: 5036966 PrepDate: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	2489	5.0	20	2501	-62.6	70 - 127	3331	28.9	20	SREO
Surr: 1,2-Dichloroethane-d4	44.95	0	50	0	89.9	70 - 126	38.82	14.6	20	
Surr: 4-Bromofluorobenzene	42.38	0	50	0	84.8	82 - 124	47.38	11.1	20	
Surr: Dibromofluoromethane	49.21	0	50	0	98.4	77 - 123	46.92	4.77	20	
Surr: Toluene-d8	49.46	0	50	0	98.9	82 - 127	45.78	7.72	20	

The following samples were analyzed in this batch: HS19040619-02 HS19040619-08

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19040619

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Unit Reported</u>	<u>Description</u>
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

ALS Houston, US

Date: 17-Apr-19

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
California	2919, 2018-2019	30-Apr-2019
Maryland	343, 2018-2019	30-Jun-2019
Arkansas	19-028-0	27-Mar-2020

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19040619

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19040619-01	S-1 (API HC)	Login	4/10/2019 8:10:13 PM	PMG	VOA160
HS19040619-02	S-3 (API Water)	Login	4/10/2019 8:10:13 PM	PMG	VOA160
HS19040619-03	S-5 (T-40)	Login	4/10/2019 8:10:13 PM	PMG	VOA160
HS19040619-04	S-6 (T-41)	Login	4/10/2019 8:10:13 PM	PMG	VOA160
HS19040619-05	Field Blank	Login	4/10/2019 8:10:13 PM	PMG	VOA160
HS19040619-06	EQ Blank Port 1	Login	4/10/2019 8:10:13 PM	PMG	VOA160
HS19040619-07	EQ Blank Port 2	Login	4/10/2019 8:10:13 PM	PMG	VOA160
HS19040619-08	Duplicate	Login	4/10/2019 8:10:13 PM	PMG	VOA160
HS19040619-09	Trip Blank	Login	4/10/2019 8:10:13 PM	PMG	VOA160

ALS Houston, US

Date: 17-Apr-19

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS19040619

Date/Time Received: **09-Apr-2019 12:54**
Received by: **PMG**

Checklist completed by: Paresh M. Giga 10-Apr-2019
eSignature Date

Reviewed by: Corey Grandits 12-Apr-2019
eSignature Date

Matrices: **Liquid**Carrier name: **FedEx**

Shipping container/cooler in good condition?
Custody seals intact on shipping container/cooler?
Custody seals intact on sample bottles?
VOA/TX1005/TX1006 Solids in hermetically sealed vials?
Chain of custody present?
Chain of custody signed when relinquished and received?
Samplers name present on COC?
Chain of custody agrees with sample labels?
Samples in proper container/bottle?
Sample containers intact?
Sufficient sample volume for indicated test?
All samples received within holding time?
Container/Temp Blank temperature in compliance?
Temperature(s)/Thermometer(s):
Cooler(s)/Kit(s):
Date/Time sample(s) sent to storage:
Water - VOA vials have zero headspace?
Water - pH acceptable upon receipt?
pH adjusted?
pH adjusted by:

Yes ☒	No ☐	Not Present ☐
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☒	No ☐	1 Page(s)
Yes ☒	No ☐	COC IDs:None
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	

2.7c/ U/C	IR11
Foam	
4/9/19 20:00	
Yes ☒	No ☐ No VOA vials submitted ☐
Yes ☒	No ☐ N/A ☐
Yes ☐	No ☒ N/A ☐

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Chain of Custody Form

Page 1 of 1

- ☐ Cincinnati, OH
+1 513 733 5336
 ☐ Holland, MI
+1 616 399 6070
 ☐ Salt Lake City, UT
+1 801 266 7700
- ☐ Everett, WA
+1 425 356 2600
 ☒ Houston, TX
+1 281 530 5656
 ☐ Spring City, PA
+1 610 948 4903
- ☐ Fort Collins, CO
+1 970 490 1511
 ☐ Middletown, PA
+1 717 944 5541
 ☐ York, PA
+1 717 505 5280

Customer Information			Project Information				Parameter/Method Request for Analysis												
Purchase Order			Project Name	BWON Monthly Sampling (EOL)			A	VOLATILES (8260) Benzene											
Work Order			Project Number				B												
Company Name	Navajo Refining Company LLC		Bill To Company	Holly Frontier Navajo Refining LLC			C												
Send Report To	Tyler Turner Gabi Combs		Invoice Attn	Susie Aguilar			D												
Address	P.O. Box 159		Address	501 East Main			E												
City/State/Zip	Artesia, NM 88211-0159		City/State/Zip	Artesia, New Mexico 88210			F												
Phone	(575) 748-3311		Phone	(575) 748-3311			G												
Fax	(575) 746-5451		Fax	(575) 746-5451			H												
e-Mail Address	turner.am@gmail.com Gabiela.Combs@hollyfrontier.com		e-Mail Address	Suzanne.Aguilar@hollyfrontier.com			I												
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	S-1 (API HC)	04/08/19	9:04 AM	Liquid	8	1	X												
2	S-3 (API Water)	04/08/19	9:15 AM	Liquid	8,1	1	X												
3	S-5 (T-40)	04/08/19	8:42 AM	Liquid	8	1	X												
4	S-6 (T-41)	04/08/19	8:47 AM	Liquid	8	1	X												
5	Field Blank	04/08/19	9:09 AM	Liquid	8,1	1	X												
6	EQ Blank Port 1	04/08/19	9:45 AM	Liquid	8,1	1	X												
7	EQ Blank Port 2	04/08/19	9:45 AM	Liquid	8,1	1	X												
8	Duplicate	04/08/19	XXX	Liquid	8,1	1	X												
9	Trip Blank	04/08/19	XXX	Liquid	8,1	2	X												
10	Temperature Blank	04/08/19		Liquid		1													
Sampler(s): Please Print & Sign <i>Brady Hubbard</i>			Shipment Method: <i>FEDEX</i>		Required Turnaround Time: ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour			Results Due Date:											
Relinquished by: <i>Brady Hubbard</i>		Date: <i>4.8.19</i>	Time: <i>4:00pm</i>	Received by: <i>[Signature]</i>			Notes:												
Relinquished by: <i>Brady Hubbard</i>		Date: <i>4.8.19</i>	Time: <i>4:00pm</i>	Received by (Laboratory): <i>[Signature]</i>			QC Package: (Check Box Below)												
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):			☐ Level II: Standard QC ☐ TRRP-Checklist ☐ Level III: Std QC + Raw Data ☐ TRRP Level IV ☐ Level IV: SW846 CLP-Like Other:												
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degree C 9-None																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
 1. Fold the printed page along the horizontal line.
 2. Place label in shipping pouch and affix to your shipment.

SHIP TO: 7703 0859 0762 10450 S ANCLIFF SUITE 210 HOUSTON TX 77099 TX (281) 330-9550 REF:		SHIP DATE: 08APR10 ACTIVITY: 30 APR 10 10:30A CDD: 047735014F52711
TO: COREY GRANDITS ALS 10450 S ANCLIFF SUITE 210 HOUSTON TX 77099 TX (281) 330-9550 REF:		BILL RECEIPT
551C107E5H04C		
FedEx Express		
Emergency Goods as per attached DGD-GAO		
TUE - 09 APR 10:30A PRIORITY OVERNIGHT ADG		
77099 IAH TXUS		
AB SGRA		
7093 0859 0762		
APR 09 2019		
B20-X Form		

100006 0157285 11012

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to airline.)

Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590782 Page 1 of 1 Page(s) Shipper's Reference Number (optional)
Consignee Corey Grandits ALS 10450 Stancilff Suite 210 HOUSTON TX 77099 US		FX 18 Compliant  CAFE3211
Two completed and signed copies of this Declaration must be handed to the operator		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.
TRANSPORT DETAILS This shipment is within the limitations prescribed for: (delete non applicable) CARGO AIRCRAFT ONLY		
Airport of Departure ARTESIA		
Airport of Destination: HOUSTON ABQGRA		SHIPMENT TYPE: (delete non applicable) NON-RADIOACTIVE
NATURE AND QUANTITY OF DANGEROUS GOODS UN Number or Identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information. UN 3266, Corrosive liquid, basic, inorganic, n.o.s.(Sodium Hydroxide), 8, III 0.08 L/854 UN 1266, Petroleum distillates, n.o.s., 3, III 0.04 L/366 All Packed In One FIBREBOARD BOX Q = 0.1		
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319		
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 04/08/2019 Signature Brady Hubbard (see warning above)
Emergency Telephone Number 18004249300		
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.1.1		

LOGOS 6157265 11/12



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

April 17, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19040623**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 4 sample(s) on Apr 09, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKELAWAL
Corey Grandits
Project Manager

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19040623

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19040623-01	S-1 (API HC)	Liquid		08-Apr-2019 09:04	09-Apr-2019 12:54	☐
HS19040623-02	S-3 (API Water)	Liquid		08-Apr-2019 09:15	09-Apr-2019 12:54	☐
HS19040623-03	S-5 (T-40)	Liquid		08-Apr-2019 08:42	09-Apr-2019 12:54	☐
HS19040623-04	S-6 (T-41)	Liquid		08-Apr-2019 08:47	09-Apr-2019 12:54	☐

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19040623

CASE NARRATIVE

Work Order Comments

- The analysis for Specific Gravity was subcontracted to ALS Environmental in Holland, MI. Final report attached.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-1 (API HC)
Collection Date: 08-Apr-2019 09:04

ANALYTICAL REPORT

WorkOrder:HS19040623
Lab ID:HS19040623-01
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst: SUBHO
GRAVITY							
Subcontract Analysis	See Attached		0		NA	1	17-Apr-2019 10:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-3 (API Water)
Collection Date: 08-Apr-2019 09:15

ANALYTICAL REPORT

WorkOrder: HS19040623
Lab ID: HS19040623-02
Matrix: Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method: NA				Analyst: SUBHO
GRAVITY							
Subcontract Analysis	See Attached		0		NA	1	17-Apr-2019 10:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-5 (T-40)
Collection Date: 08-Apr-2019 08:42

ANALYTICAL REPORT

WorkOrder:HS19040623
Lab ID:HS19040623-03
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst: SUBHO
GRAVITY							
Subcontract Analysis	See Attached		0		NA	1	17-Apr-2019 10:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-6 (T-41)
Collection Date: 08-Apr-2019 08:47

ANALYTICAL REPORT

WorkOrder:HS19040623
Lab ID:HS19040623-04
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst: SUBHO
GRAVITY							
Subcontract Analysis	See Attached		0		NA	1	17-Apr-2019 10:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19040623

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID	R336733	Test Name : SUBCONTRACTED ANALYSIS SPECIFIC GRAVITY			Matrix: Liquid	
HS19040623-01	S-1 (API HC)	08 Apr 2019 09:04			17 Apr 2019 10:14	1
HS19040623-02	S-3 (API Water)	08 Apr 2019 09:15			17 Apr 2019 10:14	1
HS19040623-03	S-5 (T-40)	08 Apr 2019 08:42			17 Apr 2019 10:14	1
HS19040623-04	S-6 (T-41)	08 Apr 2019 08:47			17 Apr 2019 10:14	1

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19040623

**QUALIFIERS,
ACRONYMS, UNITS****Qualifier Description**

*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym Description

DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Houston, US

Date: 17-Apr-19

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
California	2919, 2018-2019	30-Apr-2019
Maryland	343, 2018-2019	30-Jun-2019
Arkansas	19-028-0	27-Mar-2020

ALS Houston, US

Date: 17-Apr-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19040623

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19040623-01	S-1 (API HC)	Login	4/10/2019 8:43:16 PM	PMG	Sub
HS19040623-02	S-3 (API Water)	Login	4/10/2019 8:43:16 PM	PMG	Sub
HS19040623-03	S-5 (T-40)	Login	4/10/2019 8:43:16 PM	PMG	Sub
HS19040623-04	S-6 (T-41)	Login	4/10/2019 8:43:16 PM	PMG	Sub

ALS Houston, US

Date: 17-Apr-19

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS19040623

Date/Time Received: **09-Apr-2019 12:54**
Received by: **PMG**

Checklist completed by: Pareesh M. Giga
eSignature Date 10-Apr-2019

Reviewed by: Corey Grandits
eSignature Date 12-Apr-2019

Matrices: **Liquid**Carrier name: **FedEx**

Shipping container/cooler in good condition?
Custody seals intact on shipping container/cooler?
Custody seals intact on sample bottles?
VOA/TX1005/TX1006 Solids in hermetically sealed vials?
Chain of custody present?
Chain of custody signed when relinquished and received?
Samplers name present on COC?
Chain of custody agrees with sample labels?
Samples in proper container/bottle?
Sample containers intact?
Sufficient sample volume for indicated test?
All samples received within holding time?
Container/Temp Blank temperature in compliance?

Yes ☒	No ☐	Not Present ☐
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☒	No ☐	1 Page(s)
Yes ☒	No ☐	COC IDs:None
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	

Temperature(s)/Thermometer(s):

2.7c/2.7c U/C

IR11

Cooler(s)/Kit(s):

Foam

Date/Time sample(s) sent to storage:

4/9/19 20:00

Water - VOA vials have zero headspace?

Yes ☐	No ☐	No VOA vials submitted ☒
------------------------------	-----------------------------	--

Water - pH acceptable upon receipt?

Yes ☐	No ☐	N/A ☒
------------------------------	-----------------------------	---

pH adjusted?

Yes ☐	No ☐	N/A ☒
------------------------------	-----------------------------	---

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



17-Apr-2019

Corey Grandits
ALS Environmental
10450 Standcliff Rd
Suite 210
Houston, TX 77099

Re: **HS19040623**

Work Order: **1904851**

Dear Corey,

ALS Environmental received 4 samples on 12-Apr-2019 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP. Part of the ALS Laboratory Group - A Campbell Brothers Limited Company

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Page 13 of 22

RIGHT SOLUTIONS. RIGHT PARTNER.

ALS Group, USA

Date: 17-Apr-19

Client: ALS Environmental

Project: HS19040623

Work Order: 1904851

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1904851-01	HS19040623-01	Liquid	S-1 (API HC)	4/8/2019 09:04	4/12/2019 09:30	☐
1904851-02	HS19040623-02	Liquid	S-3 (API Water)	4/8/2019 09:15	4/12/2019 09:30	☐
1904851-03	HS19040623-03	Liquid	S-5 (T-40)	4/8/2019 08:42	4/12/2019 09:30	☐
1904851-04	HS19040623-04	Liquid	S-6 (T-41)	4/8/2019 08:47	4/12/2019 09:30	☐

ALS Group, USA

Date: 17-Apr-19

Client: ALS Environmental
Project: HS19040623
WorkOrder: 1904851

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
none	

ALS Group, USA**Date:** 17-Apr-19**Client:** ALS Environmental**Project:** HS19040623**Sample ID:** HS19040623-01**Collection Date:** 4/8/2019 09:04 AM**Work Order:** 1904851**Lab ID:** 1904851-01**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	0.944			none	1	4/16/2019 04:10 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 17-Apr-19**Client:** ALS Environmental**Project:** HS19040623**Sample ID:** HS19040623-02**Collection Date:** 4/8/2019 09:15 AM**Work Order:** 1904851**Lab ID:** 1904851-02**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	0.998			none	1	4/16/2019 04:10 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 17-Apr-19**Client:** ALS Environmental**Project:** HS19040623**Sample ID:** HS19040623-03**Collection Date:** 4/8/2019 08:42 AM**Work Order:** 1904851**Lab ID:** 1904851-03**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.13			none	1	4/16/2019 04:10 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 17-Apr-19**Client:** ALS Environmental**Project:** HS19040623**Work Order:** 1904851**Sample ID:** HS19040623-04**Lab ID:** 1904851-04**Collection Date:** 4/8/2019 08:47 AM**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.14			none	1	4/16/2019 04:10 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Apr-19

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1904851

Project: HS19040623

Batch ID: R258584

Instrument ID WETCHEM

Method: D5057-90

DUP

Sample ID: 1904851-02A DUP

Units: none

Analysis Date: 4/16/2019 04:10 PM

Client ID: HS19040623-02

Run ID: WETCHEM_190416H

SeqNo: 5609851

Prep Date:

DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	0.9998	0	0	0	0	0-0	0.9978	0.2	20	

The following samples were analyzed in this batch:

1904851-01A

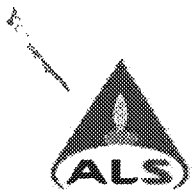
1904851-02A

1904851-03A

1904851-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1



1404851

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody**COC ID: 11109****SUBCONTRACT TO:**

ALS Group USA, Corp.
3352 - 128th Ave
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: Corey Grandits
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: Corey.Grandits@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19040623
TSR: Houston House Acct

LAB SAMPLE ID	CLIENT SAMPLE ID	ANALYSIS REQUESTED	COLLECT DATE	DATE/TIME
1. HS19040623-01	S-1 (API HC)	Liquid	08 Apr 2019 09:04	
	Sub Specific Gravity to ALS Holland		16 Apr 2019	
2. HS19040623-02	S-3 (API Water)	Liquid	08 Apr 2019 09:15	
	Sub Specific Gravity to ALS Holland		16 Apr 2019	
3. HS19040623-03	S-5 (T-40)	Liquid	08 Apr 2019 08:42	
	Sub Specific Gravity to ALS Holland		16 Apr 2019	
4. HS19040623-04	S-6 (T-41)	Liquid	08 Apr 2019 08:47	
	Sub Specific Gravity to ALS Holland		16 Apr 2019	

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By:

J. MAMICAN
[Signature]

Date/Time:

4/11/19 18:00
4/12/19 0930
SP22 3.6°C

Received By:

Date/Time:

Cooler ID(s):

Temperature(s):

RIGHT SOLUTIONS | RIGHT PARTNER

Page 1 of 1

ALS Group, USA

Sample Receipt Checklist

Client Name: ALS - HOUSTONDate/Time Received: 12-Apr-19 09:30Work Order: 1904851Received by: DSChecklist completed by Diane Sham
eSignature12-Apr-19
DateReviewed by: Chad Whelton
eSignature12-Apr-19
DateMatrices: LiquidCarrier name: FedEx

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>3.6/3.6 c</u> <u>SR2</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/12/2019 12:04:54 PM</u>		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

May 17, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19050684**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 4 sample(s) on May 10, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Corey Grandits".

Generated By: COREY.GRANDITS
Corey Grandits
Project Manager

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19050684

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19050684-01	S-1 (API HC)	Liquid		09-May-2019 09:28	10-May-2019 09:15	☐
HS19050684-02	S-3 (API Water)	Liquid		09-May-2019 09:39	10-May-2019 09:15	☐
HS19050684-03	S-5 (T-40)	Liquid		09-May-2019 09:06	10-May-2019 09:15	☐
HS19050684-04	S-6 (T-41)	Liquid		09-May-2019 09:12	10-May-2019 09:15	☐

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19050684

CASE NARRATIVE

Work Order Comments

- The analysis for Specific Gravity was subcontracted to ALS Environmental in Holland, MI. Final report attached.
- Sample S-1 (API HC) had limited volume, ALS Holland was unable to perform analysis.
-

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-3 (API Water)
Collection Date: 09-May-2019 09:39

ANALYTICAL REPORT
WorkOrder:HS19050684
Lab ID:HS19050684-02
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst: SUBHO
GRAVITY							
Subcontract Analysis	See Attached		0		NA	1	17-May-2019 13:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-5 (T-40)
Collection Date: 09-May-2019 09:06

ANALYTICAL REPORT
WorkOrder:HS19050684
Lab ID:HS19050684-03
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst: SUBHO
GRAVITY							
Subcontract Analysis	See Attached		0		NA	1	17-May-2019 13:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-6 (T-41)
Collection Date: 09-May-2019 09:12

ANALYTICAL REPORT

WorkOrder: HS19050684
Lab ID: HS19050684-04
Matrix: Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method: NA				Analyst: SUBHO
GRAVITY							
Subcontract Analysis	See Attached		0		NA	1	17-May-2019 13:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19050684

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID	R338645	Test Name : SUBCONTRACTED ANALYSIS SPECIFIC GRAVITY			Matrix: Liquid	
HS19050684-02	S-3 (API Water)	09 May 2019 09:39			17 May 2019 13:07	1
HS19050684-03	S-5 (T-40)	09 May 2019 09:06			17 May 2019 13:07	1
HS19050684-04	S-6 (T-41)	09 May 2019 09:12			17 May 2019 13:07	1

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19050684

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Houston, US

Date: 17-May-19

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
Maryland	343, 2018-2019	30-Jun-2019
Arkansas	19-028-0	27-Mar-2020
Texas	TX104704231-19-23	30-Apr-2020

ALS Houston, US

Date: 17-May-19

Sample Receipt Checklist

Client Name: Navajo Refining

Date/Time Received: 10-May-2019 09:15

Work Order: HS19050684

Received by: JRM

Checklist completed by: Raegen Giga
eSignature10-May-2019
DateReviewed by: Corey Grandits
eSignature13-May-2019
DateMatrices: Water/OilCarrier name: FedEx

Shipping container/cooler in good condition? Yes ☒ No ☐

Custody seals intact on shipping container/cooler? Yes ☐ No ☐

Custody seals intact on sample bottles? Yes ☐ No ☐

VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes ☐ No ☐

Chain of custody present? Yes ☒ No ☐

Chain of custody signed when relinquished and received? Yes ☒ No ☐

Samplers name present on COC? Yes ☒ No ☐

Chain of custody agrees with sample labels? Yes ☒ No ☐

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

Container/Temp Blank temperature in compliance? Yes ☒ No ☐

Yes ☒ No ☐ Not Present ☐

Yes ☐ No ☐ Not Present ☒

Yes ☐ No ☐ Not Present ☒

Yes ☐ No ☐ Not Present ☒

Temperature(s)/Thermometer(s):

1.2c JR11

Cooler(s)/Kit(s):

Foam

Date/Time sample(s) sent to storage:

05/10/2019 19:30

Water - VOA vials have zero headspace?

Yes ☒ No ☐ No VOA vials submitted ☐

Water - pH acceptable upon receipt?

Yes ☐ No ☐ N/A ☒

pH adjusted?

Yes ☐ No ☐ N/A ☒

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Chain of Custody Form

Page 1 of 1

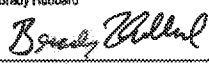
- ☐ Cincinnati, OH
+1 513 733 5336
 ☐ Holland, MI
+1 616 399 6070
 ☐ Salt Lake City, UT
+1 801 266 7700
- ☐ Everett, WA
+1 425 356 2600
 ☒ Houston, TX
+1 281 530 5656
 ☐ Spring City, PA
+1 610 948 4903
- ☐ Fort Collins, CO
+1 970 490 1511
 ☐ Middletown, PA
+1 717 944 5541
 ☐ York, PA
+1 717 505 5280

Customer Information		Project Information		Parameter/Method Request for Analysis															
Purchase Order		Project Name	BWON Monthly Sampling (EOL)	A Specific Gravity															
Work Order		Project Number		B															
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC	C															
Send Report To	Tyler Turner Gabi Combs	Invoice Attn	Susie Aguilar	D															
Address	P.O. Box 159	Address	501 East Main	E															
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210	F															
Phone	(575) 748-3311	Phone	(575) 748-3311	G															
Fax	(575) 746-5451	Fax	(575) 746-5451	H															
e-Mail Address	turner.am@mail.com Gabiela.Combs@hollyfrontier.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com	I															
				J															
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	S-1 (API HC)	05/09/19	9:28 AM	Liquid	8	1	X												
2	S-3 (API Water)	05/09/19	9:39 AM	Liquid	8	1	X												
3	S-5 (T-40)	05/09/19	9:06 AM	Liquid	8	1	X												
4	S-6 (T-41)	05/09/19	9:12 AM	Liquid	8	1	X												
5																			
6																			
7																			
8																			
9																			
10																			
Sampler(s): Please Print & Sign <i>Brady Hubbard</i>		Shipment Method: <i>FedEx</i>		Required Turnaround Time:				☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour				Results Due Date:							
Relinquished by: <i>Brady Hubbard</i>		Date: <i>5-9-19</i>	Time: <i>4:00</i>	Received by:				Notes:											
Relinquished by: <i>Brady Hubbard</i>		Date: <i>5/10/19</i>	Time: <i>09:15</i>	Received by (Laboratory): <i>J. MATHAN</i>				QC Package: (Check Box Below)											
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):				Cooler Temp. <i>12</i>	☐ Level II: Standard QC ☐ Level III: Std QC + Raw Data ☐ Level IV: SW846 CLP-Like				☐ TRRP-Checklist ☐ TRRP Level IV						
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-H2S2O8 6-NaHSO4 7-Other 8-4 degrees C 9-6035																			
Other:																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

*Order - From
1211 C.F.O.O.*

Copyright 2009 by ALS Laboratory Group

SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590773 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Stanciliff Suite 210 HOUSTON TX 77099 US		FX 18 Compliant  CAFE3211	
<i>Two completed and signed copies of this Declaration must be handed to the operator</i>		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS			
This shipment is within the limitations prescribed for: (delete non applicable) CARGO AIRCRAFT ONLY		Airport of Departure ARTESIA	
Airport of Destination: HOUSTON ABSGRA		Shipment type: (delete non applicable) ☒ NON-RADIOACTIVE	
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or Identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 3265, Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide), 8, III 0.08 L/1854 UN 1268, Petroleum distillates, n.o.s., 3, III 0.04 L/366 All Packed in One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/packaged, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 05/09/2019 Signature Brady Hubbard <i>(see warning above)</i> 	
18004249300 <i>Emergency Telephone Number</i>			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

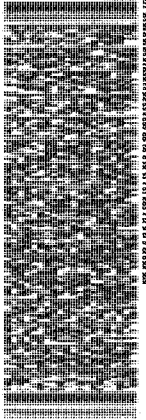
LDG05 #157295 11/12

SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590773 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Stenciliff Suite 210 HOUSTON TX 77099 US		FX 18 Compliant  CAFE3211	
Two completed and signed copies of this Declaration must be handed to the operator		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS This shipment is within the limitations prescribed for: (delete non applicable)		Airport of Departure ARTESIA	
Airport of Destination: HOUSTON ABSGRA		Shipment type: (delete non applicable) ☒ NON-RADIOACTIVE	
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 3266, Corrosive liquid, basic, inorganic, n.o.s.(Sodium Hydroxide),8,II/ 0.08 L/854 UN 1268, Petroleum distillates, n.o.s.,3,III/ 0.04 L/365 All Packed In One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-8300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/piccarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 05/09/2019 Signature (see writing above) Brady Hubbard	
18004249300 Emergency Telephone Number			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.4.4.2.1			

LOG105 8152295 11/12

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ORIGIN ID: BROW 575 840-7536 NEW YORK REGIONAL COMPANY 500 MADISON AVE 5TH FLOOR NEW YORK, NY 10017-2498 UNITED STATES US		SHIP DATE: 09MAY19 ACT NGT: 15:01:19 AM CND: 041353042571 BILL RECEIPT
TO COREY GRANDITS ALS 10450 STANCLIFF SUITE 210 HOUSTON TX 77099 REF: 2081 500-5556 CND: 500-5556 DEPT: FC		
		
		
551C14068C404C		
TRACKING 7093 0859 0773	PRIORITY OVERNIGHT FRI - 10 MAY 10:30A ADD 77099 TX-US IAH	DISCRETE CODES ARE ATTACHED TO THE DPO-CO
MAY 10 2019		



17-May-2019

Corey Grandits
ALS Environmental
10450 Stancliff Rd
Suite 210
Houston, TX 77099

Re: **HS19050684**

Work Order: **19050888**

Dear Corey,

ALS Environmental received 4 samples on 14-May-2019 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 9.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read 'Chad Whelton'.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP N/A, CORP. Part of the ALS Laboratory Group - A Campbell Brothers Limited Company

www.alsglobal.com

ALSOFT SOLUTIONS (P) (S) (L) (T) (S) (S) (S)

Page 15 of 23

UNCLASSIFIED - PUBLIC RELEASE

HFNA-000003432

ALS Group, USA

Date: 17-May-19

Client: ALS Environmental

Project: HS19050684

Work Order: 19050888

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19050888-01	HS19050684-01	Liquid	S-1 (API HC)	5/9/2019 09:28	5/14/2019 09:30	☐
19050888-02	HS19050684-02	Liquid	S-3 (API Water)	5/9/2019 09:39	5/14/2019 09:30	☐
19050888-03	HS19050684-03	Liquid	S-5 (T-40)	5/9/2019 09:06	5/14/2019 09:30	☐
19050888-04	HS19050684-04	Liquid	S-6 (T-41)	5/9/2019 09:12	5/14/2019 09:30	☐

ALS Group, USA

Date: 17-May-19

Client: ALS Environmental
Project: HS19050684
WorkOrder: 19050888

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
none	

ALS Group, USA**Date:** 17-May-19**Client:** ALS Environmental**Project:** HS19050684**Work Order:** 19050888**Sample ID:** HS19050684-02**Lab ID:** 19050888-02**Collection Date:** 5/9/2019 09:39 AM**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.00			none	1	5/17/2019 08:35 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 17-May-19**Client:** ALS Environmental**Project:** HS19050684**Sample ID:** HS19050684-03**Collection Date:** 5/9/2019 09:06 AM**Work Order:** 19050888**Lab ID:** 19050888-03**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.14			none	1	5/17/2019 08:35 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 17-May-19**Client:** ALS Environmental**Project:** HS19050684**Sample ID:** HS19050684-04**Collection Date:** 5/9/2019 09:12 AM**Work Order:** 19050888**Lab ID:** 19050888-04**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.14			none	1	5/17/2019 08:35 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-May-19

Client: ALS Environmental

Work Order: 19050888

Project: HS19050684

QC BATCH REPORT

Batch ID: R260636 Instrument ID WETCHEM Method: D5057-90

DUP Sample ID: 19050888-02A DUP Units: none Analysis Date: 5/17/2019 08:35 PM
 Client ID: HS19050684-02 Run ID: WETCHEM_190517A SeqNo: 5662483 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	1.007	0	0	0	0	0-0	1.004	0.318	20	

The following samples were analyzed in this batch:

19050888-02A	19050888-03A	19050888-04A
--------------	--------------	--------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1



19050888

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: New Mexico

COC ID: 11300

SUBCONTRACT TO:

ALS Group USA, Corp.
3352 - 128th Ave
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: Corey Grandits
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: Corey.Grandits@alsglobal.com
Alternate Contact: Jumoke M. Lawal
Email: jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19050684
TSR: Danielle Winnings

LAB SAMPLE ID	CLIENT SAMPLE ID	ANALYSIS REQUESTED	DATE/TIME COLLECTED
1. HS19050684-01	S-1 (API HC)	Liquid	09 May 2019 09:28
	Sub Specific Gravity to ALS Holland		17 May 2019
2. HS19050684-02	S-3 (API Water)	Liquid	09 May 2019 09:39
	Sub Specific Gravity to ALS Holland		17 May 2019
3. HS19050684-03	S-5 (T-40)	Liquid	09 May 2019 09:06
	Sub Specific Gravity to ALS Holland		17 May 2019
4. HS19050684-04	S-6 (T-41)	Liquid	09 May 2019 09:12
	Sub Specific Gravity to ALS Holland		17 May 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By: J. Winnings
Received By: D. J. Smith
Cooler ID(s): _____

Date/Time: 5/13/19 18:00
Date/Time: 5/14/19 0930
Temperature(s): SR2 3.22

RIGHT SOLUTIONS | RIGHT PARTNER

Page 1 of 1

ALS Group, USA

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**Date/Time Received: **14-May-19 09:30**Work Order: **19050888**Received by: **DS**Checklist completed by *Diane Shaw*
eSignature14-May-19
DateReviewed by: *Chad Whitten*
eSignature14-May-19
DateMatrices: **Liquid**Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒No ☐Not Present ☐

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

Chain of custody signed when relinquished and received?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Sample(s) received on ice?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

3.2/3.2 cSR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

5/14/2019 11:26:12 AM

Water - VOA vials have zero headspace?

Yes ☐No ☐No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐No ☐N/A ☒

pH adjusted?

Yes ☐No ☐N/A ☒

pH adjusted by:

L

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

May 17, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19050685**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 9 sample(s) on May 10, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Corey Grandits".

Generated By: JUMOKELAWAL
Corey Grandits
Project Manager

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19050685

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19050685-01	S-1 (API HC)	Liquid		09-May-2019 09:28	10-May-2019 09:15	☐
HS19050685-02	S-3 (API Water)	Liquid		09-May-2019 09:39	10-May-2019 09:15	☐
HS19050685-03	S-5 (T-40)	Liquid		09-May-2019 09:06	10-May-2019 09:15	☐
HS19050685-04	S-6 (T-41)	Liquid		09-May-2019 09:12	10-May-2019 09:15	☐
HS19050685-05	Field Blank	Water		09-May-2019 09:30	10-May-2019 09:15	☐
HS19050685-06	EQ Blank Port 1	Water		09-May-2019 10:03	10-May-2019 09:15	☐
HS19050685-07	EQ Blank Port 2	Water		09-May-2019 10:03	10-May-2019 09:15	☐
HS19050685-08	Duplicate	Liquid		09-May-2019 00:00	10-May-2019 09:15	☐
HS19050685-09	Trip Blank	Water		09-May-2019 00:00	10-May-2019 09:15	☐

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19050685

CASE NARRATIVE**GCMS Volatiles by Method SW8260****Batch ID: R338330****Sample ID: S-5 (T-40 S-6 (T-41)) (HS19050685-03, 04)**

- Surrogates failure for HS19050685-03, 04 due to sample matrix.

Batch ID: R338280,R338610

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-1 (API HC)
 Collection Date: 09-May-2019 09:28

ANALYTICAL REPORT
 WorkOrder: HS19050685
 Lab ID: HS19050685-01
 Matrix: Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C	Method: SW8260						Analyst: WLR
Benzene	220		2.4	24	mg/Kg	5000	14-May-2019 11:56
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.4</i>			<i>70-126</i>	<i>%REC</i>	<i>5000</i>	<i>14-May-2019 11:56</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>95.1</i>			<i>70-130</i>	<i>%REC</i>	<i>5000</i>	<i>14-May-2019 11:56</i>
<i>Surr: Dibromofluoromethane</i>	<i>92.9</i>			<i>70-130</i>	<i>%REC</i>	<i>5000</i>	<i>14-May-2019 11:56</i>
<i>Surr: Toluene-d8</i>	<i>97.6</i>			<i>70-130</i>	<i>%REC</i>	<i>5000</i>	<i>14-May-2019 11:56</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-3 (API Water)
 Collection Date: 09-May-2019 09:39

ANALYTICAL REPORT
 WorkOrder: HS19050685
 Lab ID: HS19050685-02
 Matrix: Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method: SW8260					Analyst: PC	
Benzene	1.3		0.030	0.25	mg/L	50	17-May-2019 07:19
<i>Surr: 1,2-Dichloroethane-d4</i>	84.6			70-126	%REC	50	17-May-2019 07:19
<i>Surr: 4-Bromofluorobenzene</i>	97.5			82-124	%REC	50	17-May-2019 07:19
<i>Surr: Dibromofluoromethane</i>	87.2			77-123	%REC	50	17-May-2019 07:19
<i>Surr: Toluene-d8</i>	106			82-127	%REC	50	17-May-2019 07:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-5 (T-40)
 Collection Date: 09-May-2019 09:06

ANALYTICAL REPORT
 WorkOrder: HS19050685
 Lab ID: HS19050685-03
 Matrix: Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C	Method: SW8260						Analyst: WLR
Benzene	0.26		0.025	0.25	mg/Kg	50	14-May-2019 10:41
<i>Surr: 1,2-Dichloroethane-d4</i>	96.4			70-126	%REC	50	14-May-2019 10:41
<i>Surr: 4-Bromofluorobenzene</i>	105			70-130	%REC	50	14-May-2019 10:41
<i>Surr: Dibromofluoromethane</i>	66.2	S		70-130	%REC	50	14-May-2019 10:41
<i>Surr: Toluene-d8</i>	99.3			70-130	%REC	50	14-May-2019 10:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-6 (T-41)
 Collection Date: 09-May-2019 09:12

ANALYTICAL REPORT
 WorkOrder:HS19050685
 Lab ID:HS19050685-04
 Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C	Method:SW8260						Analyst: WLR
Benzene	< 0.024		0.024	0.24	mg/Kg	50	14-May-2019 11:06
Surr: 1,2-Dichloroethane-d4	96.1			70-126	%REC	50	14-May-2019 11:06
Surr: 4-Bromofluorobenzene	101			70-130	%REC	50	14-May-2019 11:06
Surr: Dibromofluoromethane	69.5	S		70-130	%REC	50	14-May-2019 11:06
Surr: Toluene-d8	98.1			70-130	%REC	50	14-May-2019 11:06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Field Blank
 Collection Date: 09-May-2019 09:30

ANALYTICAL REPORT
 WorkOrder: HS19050685
 Lab ID: HS19050685-05
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method: SW8260						Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	12-May-2019 22:46
Surr: 1,2-Dichloroethane-d4	96.4			70-126	%REC	1	12-May-2019 22:46
Surr: 4-Bromofluorobenzene	96.4			82-124	%REC	1	12-May-2019 22:46
Surr: Dibromofluoromethane	97.7			77-123	%REC	1	12-May-2019 22:46
Surr: Toluene-d8	105			82-127	%REC	1	12-May-2019 22:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 1
 Collection Date: 09-May-2019 10:03

ANALYTICAL REPORT
 WorkOrder: HS19050685
 Lab ID: HS19050685-06
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method: SW8260						Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	12-May-2019 23:10
Surr: 1,2-Dichloroethane-d4	95.0			70-126	%REC	1	12-May-2019 23:10
Surr: 4-Bromofluorobenzene	99.8			82-124	%REC	1	12-May-2019 23:10
Surr: Dibromofluoromethane	94.8			77-123	%REC	1	12-May-2019 23:10
Surr: Toluene-d8	104			82-127	%REC	1	12-May-2019 23:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 2
 Collection Date: 09-May-2019 10:03

ANALYTICAL REPORT
 WorkOrder: HS19050685
 Lab ID: HS19050685-07
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method: SW8260						Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	12-May-2019 23:34
Surr: 1,2-Dichloroethane-d4	97.8			70-126	%REC	1	12-May-2019 23:34
Surr: 4-Bromofluorobenzene	101			82-124	%REC	1	12-May-2019 23:34
Surr: Dibromofluoromethane	98.1			77-123	%REC	1	12-May-2019 23:34
Surr: Toluene-d8	101			82-127	%REC	1	12-May-2019 23:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Duplicate
 Collection Date: 09-May-2019 00:00

ANALYTICAL REPORT
 WorkOrder: HS19050685
 Lab ID: HS19050685-08
 Matrix: Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method: SW8260						Analyst: PC
Benzene	1.4		0.030	0.25	mg/L	50	17-May-2019 07:43
<i>Surr: 1,2-Dichloroethane-d4</i>	84.6			70-126	%REC	50	17-May-2019 07:43
<i>Surr: 4-Bromofluorobenzene</i>	100			82-124	%REC	50	17-May-2019 07:43
<i>Surr: Dibromofluoromethane</i>	87.3			77-123	%REC	50	17-May-2019 07:43
<i>Surr: Toluene-d8</i>	103			82-127	%REC	50	17-May-2019 07:43

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Trip Blank
 Collection Date: 09-May-2019 00:00

ANALYTICAL REPORT
 WorkOrder: HS19050685
 Lab ID: HS19050685-09
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method: SW8260						Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	12-May-2019 22:21
Surr: 1,2-Dichloroethane-d4	96.3			70-126	%REC	1	12-May-2019 22:21
Surr: 4-Bromofluorobenzene	99.5			82-124	%REC	1	12-May-2019 22:21
Surr: Dibromofluoromethane	97.6			77-123	%REC	1	12-May-2019 22:21
Surr: Toluene-d8	99.8			82-127	%REC	1	12-May-2019 22:21

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-May-19

WEIGHT LOG

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19050685

Batch ID: 3060 **Method:** VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS19050685-01	1	5.267 (g)	5 (mL)	0.95	Bulk (5030B)
HS19050685-03	1	4.973 (g)	5 (mL)	1.01	Bulk (5030B)
HS19050685-04	1	5.115 (g)	5 (mL)	0.98	Bulk (5030B)

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19050685

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R338280		Test Name : VOLATILES - SW8260C		Matrix: Water		
HS19050685-05	Field Blank	09 May 2019 09:30			12 May 2019 22:46	1
HS19050685-06	EQ Blank Port 1	09 May 2019 10:03			12 May 2019 23:10	1
HS19050685-07	EQ Blank Port 2	09 May 2019 10:03			12 May 2019 23:34	1
HS19050685-09	Trip Blank	09 May 2019 00:00			12 May 2019 22:21	1
Batch ID R338330		Test Name : VOLATILES BY SW8260C		Matrix: Liquid		
HS19050685-01	S-1 (API HC)	09 May 2019 09:28			14 May 2019 11:56	5000
HS19050685-03	S-5 (T-40)	09 May 2019 09:06			14 May 2019 10:41	50
HS19050685-04	S-6 (T-41)	09 May 2019 09:12			14 May 2019 11:06	50
Batch ID R338610		Test Name : VOLATILES - SW8260C		Matrix: Liquid		
HS19050685-02	S-3 (API Water)	09 May 2019 09:39			17 May 2019 07:19	50
HS19050685-08	Duplicate	09 May 2019 00:00			17 May 2019 07:43	50

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19050685

QC BATCH REPORT

Batch ID: R338280 (0)		Instrument: VOA6		Method: VOLATILES - SW8260C						
MBLK	Sample ID: VBLKW-190512	Units: ug/L		Analysis Date: 12-May-2019 14:39						
Client ID:	Run ID: VOA6_338280	SeqNo: 5071924		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	< 0.60	5.0								
Surr: 1,2-Dichloroethane-d4	48.02	0	50	0	96.0	70 - 130				
Surr: 4-Bromofluorobenzene	49.22	0	50	0	98.4	82 - 115				
Surr: Dibromofluoromethane	48.48	0	50	0	97.0	73 - 126				
Surr: Toluene-d8	49.76	0	50	0	99.5	81 - 120				

LCS	Sample ID: VLCSW-190512	Units: ug/L		Analysis Date: 12-May-2019 13:51						
Client ID:	Run ID: VOA6_338280	SeqNo: 5071923		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	17.76	5.0	20	0	88.8	74 - 120				
Surr: 1,2-Dichloroethane-d4	48.89	0	50	0	97.8	70 - 130				
Surr: 4-Bromofluorobenzene	49.57	0	50	0	99.1	82 - 115				
Surr: Dibromofluoromethane	48.89	0	50	0	97.8	73 - 126				
Surr: Toluene-d8	51.61	0	50	0	103	81 - 120				

MS	Sample ID: HS19050571-01MS	Units: ug/L		Analysis Date: 12-May-2019 15:52						
Client ID:	Run ID: VOA6_338280	SeqNo: 5071927		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	21.7	5.0	20	0	108	70 - 127				
Surr: 1,2-Dichloroethane-d4	49.23	0	50	0	98.5	70 - 126				
Surr: 4-Bromofluorobenzene	49.32	0	50	0	98.6	82 - 124				
Surr: Dibromofluoromethane	49.2	0	50	0	98.4	77 - 123				
Surr: Toluene-d8	50.74	0	50	0	101	82 - 127				

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19050685

QC BATCH REPORT

Batch ID: R338280 (0)		Instrument: VOA6		Method: VOLATILES - SW8260C					
MSD	Sample ID: HS19050571-01MSD	Units: ug/L		Analysis Date: 12-May-2019 16:16					
Client ID:	Run ID: VOA6_338280		SeqNo: 5071928		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	19.95	5.0	20	0	99.8	70 - 127	21.7	8.39	20
Surr: 1,2-Dichloroethane-d4	50.56	0	50	0	101	70 - 126	49.23	2.66	20
Surr: 4-Bromofluorobenzene	50.63	0	50	0	101	82 - 124	49.32	2.62	20
Surr: Dibromofluoromethane	49.94	0	50	0	99.9	77 - 123	49.2	1.48	20
Surr: Toluene-d8	50.87	0	50	0	102	82 - 127	50.74	0.251	20
The following samples were analyzed in this batch:									
HS19050685-05		HS19050685-06		HS19050685-07		HS19050685-09			

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19050685

QC BATCH REPORT

Batch ID: R338330 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C						
MBLK	Sample ID: MBLKW1-051419	Units: ug/Kg		Analysis Date: 14-May-2019 09:51						
Client ID:	Run ID: VOA8_338330	SeqNo: 5073455		PrepDate:		DF: 50				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	< 25	250								
Surr: 1,2-Dichloroethane-d4	2374	0	2500	0	95.0	76 - 125				
Surr: 4-Bromofluorobenzene	2340	0	2500	0	93.6	80 - 120				
Surr: Dibromofluoromethane	2228	0	2500	0	89.1	80 - 119				
Surr: Toluene-d8	2444	0	2500	0	97.8	81 - 118				

LCS	Sample ID: VLCSW1-051419	Units: ug/Kg		Analysis Date: 14-May-2019 09:01						
Client ID:	Run ID: VOA8_338330	SeqNo: 5073454		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	49.05	5.0	50	0	98.1	75 - 124				
Surr: 1,2-Dichloroethane-d4	51.09	0	50	0	102	76 - 125				
Surr: 4-Bromofluorobenzene	51.86	0	50	0	104	80 - 120				
Surr: Dibromofluoromethane	52.3	0	50	0	105	80 - 119				
Surr: Toluene-d8	51.53	0	50	0	103	81 - 118				

MS	Sample ID: HS19050546-02MS	Units: ug/Kg		Analysis Date: 14-May-2019 13:11						
Client ID:	Run ID: VOA8_338330	SeqNo: 5074002		PrepDate:		DF: 500				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	26660	2400	24000	0	111	70 - 130				
Surr: 1,2-Dichloroethane-d4	23380	0	24000	0	97.4	70 - 126				
Surr: 4-Bromofluorobenzene	23430	0	24000	0	97.6	70 - 130				
Surr: Dibromofluoromethane	23660	0	24000	0	98.6	70 - 130				
Surr: Toluene-d8	23760	0	24000	0	99.0	70 - 130				

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19050685

QC BATCH REPORT

Batch ID: R338330 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C						
MSD	Sample ID: HS19050546-02MSD	Units: ug/Kg		Analysis Date: 14-May-2019 13:37						
Client ID:	Run ID: VOA8_338330		SeqNo: 5074003		PrepDate:		DF: 500			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	23660	2400	24000	0	98.6	70 - 130	26660	11.9	30	
Surr: 1,2-Dichloroethane-d4	24040	0	24000	0	100	70 - 126	23380	2.77	30	
Surr: 4-Bromofluorobenzene	24130	0	24000	0	101	70 - 130	23430	2.94	30	
Surr: Dibromofluoromethane	24250	0	24000	0	101	70 - 130	23660	2.46	30	
Surr: Toluene-d8	24110	0	24000	0	100	70 - 130	23760	1.45	30	
The following samples were analyzed in this batch:										
		HS19050685-01		HS19050685-03		HS19050685-04				

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19050685

QC BATCH REPORT

Batch ID: R338610 (0)		Instrument: VOA6		Method: VOLATILES - SW8260C						
MBLK	Sample ID: VBLKW-190516	Units: ug/L		Analysis Date: 16-May-2019 22:53						
Client ID:	Run ID: VOA6_338610	SeqNo: 5078851		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	< 0.60	5.0								
Surr: 1,2-Dichloroethane-d4	42.12	0	50	0	84.2	70 - 130				
Surr: 4-Bromofluorobenzene	50.32	0	50	0	101	82 - 115				
Surr: Dibromofluoromethane	43.87	0	50	0	87.7	73 - 126				
Surr: Toluene-d8	52.26	0	50	0	105	81 - 120				

LCS	Sample ID: VLCSW-190516	Units: ug/L		Analysis Date: 16-May-2019 22:05						
Client ID:	Run ID: VOA6_338610	SeqNo: 5078850		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19.29	5.0	20	0	96.5	74 - 120				
Surr: 1,2-Dichloroethane-d4	50.8	0	50	0	102	70 - 130				
Surr: 4-Bromofluorobenzene	52.72	0	50	0	105	82 - 115				
Surr: Dibromofluoromethane	51.71	0	50	0	103	73 - 126				
Surr: Toluene-d8	49.9	0	50	0	99.8	81 - 120				

MS	Sample ID: HS19050590-02MS	Units: ug/L		Analysis Date: 17-May-2019 02:06						
Client ID:	Run ID: VOA6_338610	SeqNo: 5078853		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	16.6	5.0	20	0	83.0	70 - 127				
Surr: 1,2-Dichloroethane-d4	43.32	0	50	0	86.6	70 - 126				
Surr: 4-Bromofluorobenzene	50.55	0	50	0	101	82 - 124				
Surr: Dibromofluoromethane	45.38	0	50	0	90.8	77 - 123				
Surr: Toluene-d8	52.03	0	50	0	104	82 - 127				

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19050685

QC BATCH REPORT

Batch ID: R338610 (0) Instrument: VOA6 Method: VOLATILES - SW8260C

MSD	Sample ID: HS19050590-02MSD			Units: ug/L		Analysis Date: 17-May-2019 02:30			
Client ID:	Run ID: VOA6_338610			SeqNo: 5078854		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	16.45	5.0	20	0	82.3	70 - 127	16.6	0.864	20
Surr: 1,2-Dichloroethane-d4	43.24	0	50	0	86.5	70 - 126	43.32	0.172	20
Surr: 4-Bromofluorobenzene	49.41	0	50	0	98.8	82 - 124	50.55	2.27	20
Surr: Dibromofluoromethane	44.68	0	50	0	89.4	77 - 123	45.38	1.56	20
Surr: Toluene-d8	51.67	0	50	0	103	82 - 127	52.03	0.7	20

The following samples were analyzed in this batch: HS19050685-02 HS19050685-08

ALS Houston, US

Date: 17-May-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19050685

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

ALS Houston, US

Date: 17-May-19

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
Maryland	343, 2018-2019	30-Jun-2019
Arkansas	19-028-0	27-Mar-2020
Texas	TX104704231-19-23	30-Apr-2020

ALS Houston, US

Date: 17-May-19

Sample Receipt Checklist

Client Name: Navajo Refining
Work Order: HS19050685

Date/Time Received: 10-May-2019 09:15
Received by: JRM

Checklist completed by: Raegen Giga
eSignature Date 10-May-2019

Reviewed by: Corey Grandits
eSignature Date 13-May-2019

Matrices: LiquidCarrier name: FedEx

Shipping container/cooler in good condition?
Custody seals intact on shipping container/cooler?
Custody seals intact on sample bottles?
VOA/TX1005/TX1006 Solids in hermetically sealed vials?
Chain of custody present?
Chain of custody signed when relinquished and received?
Samplers name present on COC?
Chain of custody agrees with sample labels?
Samples in proper container/bottle?
Sample containers intact?
Sufficient sample volume for indicated test?
All samples received within holding time?
Container/Temp Blank temperature in compliance?
Temperature(s)/Thermometer(s):
Cooler(s)/Kit(s):
Date/Time sample(s) sent to storage:
Water - VOA vials have zero headspace?
Water - pH acceptable upon receipt?
pH adjusted?
pH adjusted by:
Login Notes:

Yes ☒	No ☐	Not Present ☐
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	

1.2c	IR11
Foam	
05/10/2019 19:30	
Yes ☒	No ☐ No VOA vials submitted ☐
Yes ☒	No ☐ N/A ☐
Yes ☐	No ☒ N/A ☐

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Chain of Custody Form

Page 1 of 1

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- ☐ Fort Collins, CO
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 ☐ Middletown, PA
+1 717 944 5541
 ☐ York, PA
+1 717 505 5280

Customer Information		Project Information					Parameter/Method Request for Analysis											
Purchase Order		Project Name	BWON Monthly Sampling (EOL)				VOLATILES (8260) Benzene											
Work Order		Project Number																
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC				HS19050685 Navajo Refining Company BWON Monthly Sampling (EOL) 											
Send Report To	Tyler Turner Gabi Combs	Invoice Attn	Susie Aguilar															
Address	P.O. Box 159	Address	501 East Main															
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210															
Phone	(575) 748-3311	Phone	(575) 748-3311															
Fax	(575) 746-5451	Fax	(575) 746-5451															
e-Mail Address	turner.am@gmail.com Gabiela.Combs@hollyfrontier.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com															
No.	Sample Description	Date	Time	Matrix	Pres	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
1	S-1 (API HC)	05/09/19	9:28 AM	Liquid	8	1	X											
2	S-3 (API Water)	05/09/19	9:39 AM	Liquid	8,1	1	X											
3	S-5 (T-40)	05/09/19	9:06 AM	Liquid	8	1	X											
4	S-8 (T-41)	05/09/19	9:12 AM	Liquid	8	1	X											
5	Field Blank	05/09/19	9:30 AM	Liquid	8,1	1	X											
6	EQ Blank Port 1	05/09/19	10:03 AM	Liquid	8,1	1	X											
7	EQ Blank Port 2	05/09/19	10:03 AM	Liquid	8,1	1	X											
8	Duplicate	05/09/19	XXX	Liquid	8,1	1	X											
9	Trip Blank	05/09/19	XXX	Liquid	8,1	2	X											
10	Temperature Blank	05/09/19		Liquid		1												
Sampler(s): Please Print & Sign: <i>Brady Hubbard</i> <i>Brady Allen</i>		Shipment Method: <i>FedEx</i>		Required Turnaround Time: ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour				Results Due Date:										
Relinquished by: <i>Brady Hubbard</i> <i>Brady Allen</i>		Date: <i>5-9-19</i>	Time: <i>4:00</i>	Received by: _____				Notes:										
Relinquished by: _____		Date: <i>5/10/19</i>	Time: <i>09:15</i>	Received by (Laboratory): <i>J. [Signature]</i>				Cooler Temp: <i>1.2</i>										
Logged by (Laboratory): _____		Date: _____	Time: _____	Checked by (Laboratory): _____				QC Package: (Check Box Below)										
								☐ Level II: Standard QC ☐ Level III: Std QC + Raw Data ☐ Level IV: SW846 CLP-Like Other: _____										
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-3035																		

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

Cooler - Foam
1/211 CF-0.0

Copyright 2009 by ALS Laboratory Group

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
 1. Fold the printed page along the horizontal line.
 2. Place label in shipping pouch and affix it to your shipment.

Page 25 of 27

SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AGUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590773 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Stancliff Suite 210 HOUSTON TX 77099 US		FX 18 Compliant  CAFE3211	
Two completed and signed copies of this Declaration must be handed to the operator		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS			
This shipment is within the limitations prescribed for: (delete non applicable)		Airport of Departure ARTESIA	
CARGO AIRCRAFT ONLY		Shipment Type: (delete non applicable) NON RADIOACTIVE	
Airport of Destination: HOUSTON ABQRA			
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 3266, Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide), 8, I/ 0.08 L/854 UN 1268, Petroleum distillates, n.g.s., 3, III/ 0.04 L/366 All Packed in One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/picarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 05/08/2019 Signature Brady Hubbard <i>(see warning above)</i> 	
18004249300 <i>Emergency Telephone Number</i>			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

LOG05 9157295 11/12

SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590773 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Stanciliff Suite 210 HOUSTON TX 77099 US		FedEx Express CAFE3211 FX 18 Compliant	
Two completed and signed copies of this Declaration must be handed to the operator		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS This shipment is within the limitations prescribed for: (delete non applicable) ☒ CARGO ☐ AIRCRAFT ☐ ONLY		Airport of Departure ARTESIA Shipment type: (delete non applicable) ☒ NON-RADIOACTIVE	
Airport of Destination: HOUSTON ABSGRA			
NATURE AND QUANTITY OF DANGEROUS GOODS <i>UN Number or Identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information.</i> UN 3266, Corrosive liquid, basic, inorganic, n.o.s., (Sodium Hydroxide), 8, I// 0.08 L/854 UN 1268, Petroleum distillates, n.o.s., 3, III// 0.04 L/366 All Packed In One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/picarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 05/05/2019 Signature Brady Hubbard (see warning above) 	
18004249300 <i>Emergency Telephone Number</i>			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.5.4.2.1			

LOGOS #157295 11/12



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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June 14, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19060420**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 3 sample(s) on Jun 07, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Corey Grandits".

Generated By: DAYNA.FISHER
Corey Grandits
Project Manager

ALS Houston, US

Date: 14-jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19060420

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19060420-01	S-1 (API HC)	Liquid		06-Jun-2019 09:19	07-Jun-2019 09:00	☐
HS19060420-02	S-3 (API Water)	Liquid		06-Jun-2019 09:33	07-Jun-2019 09:00	☐
HS19060420-03	S-5 (T-40)	Liquid		06-Jun-2019 08:51	07-Jun-2019 09:00	☐

ALS Houston, US

Date: 14-Jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19060420

CASE NARRATIVE

Work Order Comments

- The analysis for Specific Gravity was subcontracted to ALS Environmental in Holland, MI. Final report attached.

ALS Houston, US

Date: 14-Jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-1 (API HC)
Collection Date: 06-Jun-2019 09:19

ANALYTICAL REPORT

WorkOrder:HS19060420
Lab ID:HS19060420-01
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst: SUBHO
GRAVITY							
Subcontract Analysis	See Attached		0		NA	1	14-Jun-2019 08:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-3 (API Water)
Collection Date: 06-Jun-2019 09:33

ANALYTICAL REPORT
WorkOrder:HS19060420
Lab ID:HS19060420-02
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst: SUBHO
GRAVITY							
Subcontract Analysis	See Attached		0		NA	1	14-Jun-2019 08:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Sample ID: S-5 (T-40)
Collection Date: 06-Jun-2019 08:51

ANALYTICAL REPORT
WorkOrder:HS19060420
Lab ID:HS19060420-03
Matrix:Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACTED ANALYSIS SPECIFIC			Method:NA				Analyst: SUBHO
GRAVITY							
Subcontract Analysis	See Attached		0		NA	1	14-Jun-2019 08:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 14-Jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19060420

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID	R340484	Test Name : SUBCONTRACTED ANALYSIS SPECIFIC GRAVITY			Matrix: Liquid	
HS19060420-01	S-1 (API HC)	06 Jun 2019 09:19			14 Jun 2019 08:46	1
HS19060420-02	S-3 (API Water)	06 Jun 2019 09:33			14 Jun 2019 08:46	1
HS19060420-03	S-5 (T-40)	06 Jun 2019 08:51			14 Jun 2019 08:46	1

ALS Houston, US

Date: 14-Jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19060420

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

ALS Houston, US

Date: 14-Jun-19

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
Maryland	343, 2018-2019	30-Jun-2019
Arkansas	19-028-0	27-Mar-2020
Texas	TX104704231-19-23	30-Apr-2020

ALS Houston, US

Date: 14-jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19060420

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19060420-01	S-1 (API HC)	Login	08/06/2019 14:47:22	PMG	Sub
HS19060420-02	S-3 (API Water)	Login	08/06/2019 14:47:22	PMG	Sub
HS19060420-03	S-5 (T-40)	Login	08/06/2019 14:47:22	PMG	Sub

ALS Houston, US

Date: 14-Jun-19

Sample Receipt Checklist

Client Name: Navajo Refining
 Work Order: HS19060420

Date/Time Received: **07-Jun-2019 09:00**
 Received by: **NDR**

Checklist completed by: Pareesh M. Giga 8-Jun-2019
 eSignature Date

Reviewed by: Corey Grandits 10-Jun-2019
 eSignature Date

Matrices: **Liquid**Carrier name: **FedEx**

Shipping container/cooler in good condition?
 Custody seals intact on shipping container/cooler?
 Custody seals intact on sample bottles?
 VOA/TX1005/TX1006 Solids in hermetically sealed vials?
 Chain of custody present?
 Chain of custody signed when relinquished and received?
 Samplers name present on COC?
 Chain of custody agrees with sample labels?
 Samples in proper container/bottle?
 Sample containers intact?
 Sufficient sample volume for indicated test?
 All samples received within holding time?
 Container/Temp Blank temperature in compliance?
 Temperature(s)/Thermometer(s):
 Cooler(s)/Kit(s):
 Date/Time sample(s) sent to storage:
 Water - VOA vials have zero headspace?
 Water - pH acceptable upon receipt?
 pH adjusted?
 pH adjusted by:

Yes ☒	No ☐	Not Present ☐
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☐	No ☐	Not Present ☒
Yes ☒	No ☐	1 Page(s)
Yes ☒	No ☐	COC IDs:None
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	
Yes ☒	No ☐	

1.5c U/c	IR11	
HazmatPak		
6/7/19 20:00		
Yes ☐	No ☐	No VOA vials submitted ☒
Yes ☐	No ☐	N/A ☒
Yes ☐	No ☐	N/A ☒

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



Chain of Custody Form

Page 1 of 1

HS19060420

Navajo Refining Company
BWON Monthly Sampling (EOL)ty, UT
7700PA
4903

5280



Customer Information		Project Information					Parameter/Method Request for Analysis												
Purchase Order		Project Name	BWON Monthly Sampling (EOL)					A	Specific Gravity										
Work Order		Project Number						B											
Company Name	Navajo Refining Company LLC	Bill To Company	Holly Frontier Navajo Refining LLC					C											
Send Report To	Tyler Turner Gabi Combs	Invoice Attn	Susie Aguilar					D											
Address	P.O. Box 159	Address	501 East Main					E											
City/State/Zip	Artesia, NM 88211-0159	City/State/Zip	Artesia, New Mexico 88210					F											
Phone	(575) 748-3311	Phone	(575) 748-3311					G											
Fax	(575) 746-5451	Fax	(575) 746-5451					H											
e-Mail Address	turner.am@gmail.com Gabi.Combs@hollyfrontier.com	e-Mail Address	Suzanne.Aguilar@hollyfrontier.com					I											
J																			
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	S-1 (API HC)	06/06/19	9:19 AM	Liquid	8	1	X												
2	S-3 (API Water)	06/06/19	9:33 AM	Liquid	8	1	X												
3	S-5 (T-40)	06/06/19	8:51 AM	Liquid	8	1	X												
4																			
5																			
6																			
7																			
8																			
9																			
10																			
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time:		Results Due Date:													
		FEDEX		☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour															
Relinquished by:	Brady Hubbard	Date:	6-6-19	Time:	4:00	Received by:		Notes:											
Relinquished by:	Brady Hubbard	Date:	6/7/19	Time:	09:00	Received by (Laboratory):		Cooler Temp: 4°C											
Logged by (Laboratory):		Date:		Time:		Checked by (Laboratory):		QC Package: (Check Box Below)											
								☐ Level II: Standard QC ☐ Level III: Std QC + Raw Data ☐ Level IV: SW846 CLP-Like Other:											
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
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ORIGIN: BROWNSVILLE, TX 77801
NAVALO REPAIR COMPANY
C/O ELMAR MACHINISTS
501 E MAIN
ARLESIA, NM 88210
UNITED STATES US

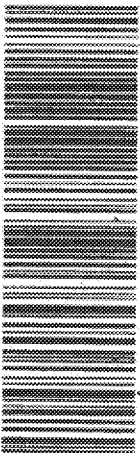
SHP DATE: 06 JUN 19
ACTWGT: 35.00 LB MAX
CNO: 0077853C0FEE2711
BILL RECEIPT

TO: COREY GRANDITS
ALS
10450 STANCLIFF
SUITE 210
HOUSTON TX 77099
REF: 1
PC: 1
CST: 1

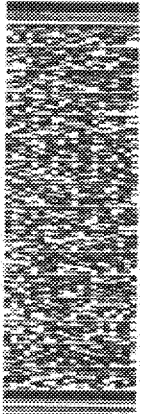
551C1D210404C

TX 7093 0859 0784
FRI - 07 JUN 10:30A
PRIORITY OVERNIGHT
ADG
77099
TX-US IAH

ABSGRA




FedEx
Express



Domestic Goods as per attached DOD CNO

7093 0859 0784

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to airline.)

Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590784 Page 1 of 1 Page(s) Shipper's Reference Number (optional)
Consignee Corey Grandits ALS 10450 Stancilff Suite 210 HOUSTON TX 77099 US		FX 18 Compliant  CAFE3211
Two completed and signed copies of this Declaration must be handed to the operator		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.
TRANSPORT DETAILS This shipment is within the limitations prescribed for: (delete non applicable) CARGO AIRCRAFT ONLY		
Airport of Departure ARTESIA		Shipment type: (delete non applicable) ☒ NON-RADIOACTIVE
Airport of Destination: HOUSTON ABSGRA		
NATURE AND QUANTITY OF DANGEROUS GOODS UN Number or Identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information. UN 3266, Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide), 8, III 0.04 L/854 UN 1268, Petroleum distillates, n.o.s., 3, III 0.04 L/366 All Packed in One FIBREBOARD BOX Q = 0.1		
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201318		
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 09/06/2019 Signature (see warning above) 
18004249300 Emergency Telephone Number		
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1		

LDG01 #157295 1/1/12

SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 7093085907B4 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10458 Stanciliff Suite 210 HOUSTON TX 77099 US		FX 18 Compliant FedEx Express CAFE3211	
Two completed and signed copies of this Declaration must be handed to the operator		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS			
This shipment is within the limitations prescribed for: (delete non applicable)		Airport of Departure ARTESIA	
CARGO AIRCRAFT ONLY			
Airport of Destination: HOUSTON ABSSRA		Shipment type: (delete non applicable) NON-RADIOACTIVE	
NATURE AND QUANTITY OF DANGEROUS GOODS UN Number or Identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information. UN 3268, Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide), 8, I// 0.04 L/1854 UN 1268, Petroleum distillates, n.o.s., 3, III// 0.04 L/366 All Packed in One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 06/06/2015 Signature Brady Hubbard (see warning above)	
18004249300 Emergency Telephone Number			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

LOGOS #157235 11/12

SHIPPER'S DECLARATION FOR DANGEROUS GOODS		(Provide at least three copies to airline.)	
Shipper NAVAJO REFINING COMPANY C/O AQUA MICROBICS 501 E MAIN ARTESIA NM 88210 US		Air Waybill No. 709308590784 Page 1 of 1 Page(s) Shipper's Reference Number (optional)	
Consignee Corey Grandits ALS 10450 Stanciff Suite 210 HOUSTON TX 77099 US		FX 18 Compliant FedEx Express CAFE3211	
Two completed and signed copies of this Declaration must be handed to the operator		WARNING Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.	
TRANSPORT DETAILS This shipment is within the limitations prescribed for: (delete non applicable) CARGO AIRCRAFT ONLY		Airport of Departure ARTESIA	
Airport of Destination: HOUSTON ASSGRA		Shipment type: (delete non applicable) NON-RADIOACTIVE	
NATURE AND QUANTITY OF DANGEROUS GOODS UN Number or Identification Number, proper shipping name, Class or Division (subsidiary risk), packing group (if required), and all other required information. UN 3266, Corrosive liquid, basic, inorganic, n.o.s.(Sodium Hydroxide), 8,II/ 0.04 L/854 UN 1268, Petroleum distillates, n.o.s., 3,III/ 0.04 L/366 All Packed In One FIBREBOARD BOX Q = 0.1			
Additional Handling Information 24-Hour Emergency Response- CHEMTREC 1-800-424-9300, CCN 201319			
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations. I declare that all of the applicable air transport requirements have been met.		Name/Title of Signatory Brady Hubbard/Environmental Coordinator Place and Date Artesia, NM 08/08/2019 Signature (see warning above) Brady Hubbard 	
18004249300 Emergency Telephone Number			
FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1			

LOGOS #157255 11/12



14-Jun-2019

Corey Grandits
ALS Environmental
10450 Standcliff Rd
Suite 210
Houston, TX 77099

Re: **HS19060420**

Work Order: **19060672**

Dear Corey,

ALS Environmental received 3 samples on 11-Jun-2019 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 9.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read 'Chad Whelton', is written over a horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

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Page 17 of 25

ALSOFT SOLUTIONS - REPORT MARKING

ALS Group, USA

Date: 14-Jun-19

Client: ALS Environmental
Project: HS19060420
Work Order: 19060672

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
19060672-01	HS19060420-01	Liquid	S-1 (API HC)	6/6/2019 09:19	6/11/2019 09:30	☐
19060672-02	HS19060420-02	Liquid	S-3 (API Water)	6/6/2019 09:33	6/11/2019 09:30	☐
19060672-03	HS19060420-03	Liquid	S-5 (T-40)	6/6/2019 08:51	6/11/2019 09:30	☐

ALS Group, USA

Date: 14-Jun-19

Client: ALS Environmental
 Project: HS19060420
 WorkOrder: 19060672

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
none	

ALS Group, USA**Date:** 14-Jun-19**Client:** ALS Environmental**Project:** HS19060420**Work Order:** 19060672**Sample ID:** HS19060420-01**Lab ID:** 19060672-01**Collection Date:** 6/6/2019 09:19 AM**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	0.844			none	1	6/13/2019 02:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Jun-19

Client: ALS Environmental

Project: HS19060420

Sample ID: HS19060420-02

Collection Date: 6/6/2019 09:33 AM

Work Order: 19060672

Lab ID: 19060672-02

Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.00			none	1	6/13/2019 02:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 14-Jun-19**Client:** ALS Environmental**Project:** HS19060420**Work Order:** 19060672**Sample ID:** HS19060420-03**Lab ID:** 19060672-03**Collection Date:** 6/6/2019 08:51 AM**Matrix:** LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC GRAVITY			D5057-90			Analyst: RZM
Specific Gravity	1.17			none	1	6/13/2019 02:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 14-Jun-19

Client: ALS Environmental

QC BATCH REPORT

Work Order: 19060672

Project: HS19060420

Batch ID: R262578

Instrument ID WETCHEM

Method: D5057-90

DUP Sample ID: 19060672-02A DUP Units: none Analysis Date: 6/13/2019 02:15 PM
 Client ID: HS19060420-02 Run ID: WETCHEM_190613M SeqNo: 5712799 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Gravity	1.003	0	0	0	0	0-0	0.9996	0.3	20	

The following samples were analyzed in this batch:

19060672-01A

19060672-02A

19060672-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1



10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

19060672

SAMPLING STATE: New Mexico

COC ID: 11559

SUBCONTRACT TO:

ALS Group USA, Corp.
3352 - 128th Ave
Holland, MI 494249263

Phone: +1 616 399 6070

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: Corey Grandits
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: Corey.Grandits@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS19060420
TSR: Danielle Winnings

ANALYSIS ID	ANALYSIS NAME	MATERIAL	DATE
HS19060420-01	S-1 (API HC)	Liquid	06 Jun 2019 09:19

1.	HS19060420-01	S-1 (API HC)	Liquid	06 Jun 2019 09:19
		Sub Specific Gravity to ALS Holland		14 Jun 2019
2.	HS19060420-02	S-3 (API Water)	Liquid	06 Jun 2019 09:33
		Sub Specific Gravity to ALS Holland		14 Jun 2019
3.	HS19060420-03	S-5 (T-40)	Liquid	06 Jun 2019 08:51
		Sub Specific Gravity to ALS Holland		14 Jun 2019

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
~~SDS Sheets attached.~~

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By: J. Maun
Received By: UHL
Cooler ID(s): 5.8C

Date/Time: 6/10/19 12:00
Date/Time: 6-11-19 9:30
Temperature(s): SL2 PH16

ANALYSIS ID: HS19060420-01

MF 15:47

ALS Group, USA

Sample Receipt Checklist

Client Name: **ALS - HOUSTON**Date/Time Received: **11-Jun-19 09:30**Work Order: **19060672**Received by: **BNF**Checklist completed by *Bernina France*
eSignature11-Jun-19
DateReviewed by: *Chad Whilton*
eSignature11-Jun-19
DateMatrices: **Water**Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>5.8/5.8 C</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u>1</u>		
Date/Time sample(s) sent to storage:	<u>6/11/2019 3:50:53 PM</u>		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☒	N/A ☐
pH adjusted by:	<u> </u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

June 20, 2019

Gabriela Combs
Navajo Refining Company
PO Box 1490
Artesia, NM 88211-1490

Work Order: **HS19060423**

Laboratory Results for: **BWON Monthly Sampling (EOL)**

Dear Gabriela,

ALS Environmental received 8 sample(s) on Jun 07, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Corey Grandits".

Generated By: JUMOKE.LAWAL
Corey Grandits
Project Manager

ALS Houston, US

Date: 20-jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19060423

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19060423-01	S-1 (API HC)	Oil		06-Jun-2019 09:19	07-Jun-2019 09:00	☐
HS19060423-02	S-3 (API Water)	Liquid		06-Jun-2019 09:33	07-Jun-2019 09:00	☐
HS19060423-03	S-5 (T-40)	Oil		06-Jun-2019 08:51	07-Jun-2019 09:00	☐
HS19060423-04	Field Blank	Water		06-Jun-2019 09:37	07-Jun-2019 09:00	☐
HS19060423-05	EQ Blank Port 1	Water		06-Jun-2019 09:50	07-Jun-2019 09:00	☐
HS19060423-06	EQ Blank Port 2	Water		06-Jun-2019 09:50	07-Jun-2019 09:00	☐
HS19060423-07	Duplicate	Liquid		06-Jun-2019 00:00	07-Jun-2019 09:00	☐
HS19060423-08	Trip Blank	Water	C&G- 101618-97	06-Jun-2019 00:00	07-Jun-2019 09:00	☐

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19060423

CASE NARRATIVE

GCMS Volatiles by Method SW8260

Batch ID: R340490,R340496,R340871

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R340284

Sample ID: S-5 (T-40) (HS19060423-03)

- Lowest practical dilution for HS19060423-03 due to sample matrix.
Surrogate failure due to matrix.
-

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-1 (API HC)
 Collection Date: 06-Jun-2019 09:19

ANALYTICAL REPORT
 WorkOrder: HS19060423
 Lab ID: HS19060423-01
 Matrix: Oil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method: SW8260				Analyst: WLR	
Benzene	46		0.24	2.4	mg/Kg	500	12-Jun-2019 01:35
Surr: 1,2-Dichloroethane-d4	91.8			70-126	%REC	500	12-Jun-2019 01:35
Surr: 4-Bromofluorobenzene	95.5			70-130	%REC	500	12-Jun-2019 01:35
Surr: Dibromofluoromethane	87.8			70-130	%REC	500	12-Jun-2019 01:35
Surr: Toluene-d8	99.9			70-130	%REC	500	12-Jun-2019 01:35

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-3 (API Water)
 Collection Date: 06-Jun-2019 09:33

ANALYTICAL REPORT
 WorkOrder: HS19060423
 Lab ID: HS19060423-02
 Matrix: Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method: SW8260		Analyst: PC			
Benzene	0.59		0.030	0.25	mg/L	50	19-Jun-2019 22:56
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>92.3</i>			<i>70-126</i>	<i>%REC</i>	<i>50</i>	<i>19-Jun-2019 22:56</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>95.1</i>			<i>82-124</i>	<i>%REC</i>	<i>50</i>	<i>19-Jun-2019 22:56</i>
<i>Surr: Dibromofluoromethane</i>	<i>98.5</i>			<i>77-123</i>	<i>%REC</i>	<i>50</i>	<i>19-Jun-2019 22:56</i>
<i>Surr: Toluene-d8</i>	<i>100</i>			<i>82-127</i>	<i>%REC</i>	<i>50</i>	<i>19-Jun-2019 22:56</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: S-5 (T-40)
 Collection Date: 06-Jun-2019 08:51

ANALYTICAL REPORT
 WorkOrder: HS19060423
 Lab ID: HS19060423-03
 Matrix: Oil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method: SW8260				Analyst: WLR	
Benzene	< 0.024		0.024	0.24	mg/Kg	50	12-Jun-2019 01:10
Surr: 1,2-Dichloroethane-d4	93.2			70-126	%REC	50	12-Jun-2019 01:10
Surr: 4-Bromofluorobenzene	96.4			70-130	%REC	50	12-Jun-2019 01:10
Surr: Dibromofluoromethane	66.3	S		70-130	%REC	50	12-Jun-2019 01:10
Surr: Toluene-d8	96.7			70-130	%REC	50	12-Jun-2019 01:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Field Blank
 Collection Date: 06-Jun-2019 09:37

ANALYTICAL REPORT
 WorkOrder: HS19060423
 Lab ID: HS19060423-04
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method: SW8260						Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	14-Jun-2019 05:58
Surr: 1,2-Dichloroethane-d4	97.6			70-126	%REC	1	14-Jun-2019 05:58
Surr: 4-Bromofluorobenzene	98.4			82-124	%REC	1	14-Jun-2019 05:58
Surr: Dibromofluoromethane	104			77-123	%REC	1	14-Jun-2019 05:58
Surr: Toluene-d8	101			82-127	%REC	1	14-Jun-2019 05:58

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 1
 Collection Date: 06-Jun-2019 09:50

ANALYTICAL REPORT
 WorkOrder: HS19060423
 Lab ID: HS19060423-05
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method: SW8260						Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	14-Jun-2019 06:23
Surr: 1,2-Dichloroethane-d4	102			70-126	%REC	1	14-Jun-2019 06:23
Surr: 4-Bromofluorobenzene	93.0			82-124	%REC	1	14-Jun-2019 06:23
Surr: Dibromofluoromethane	99.2			77-123	%REC	1	14-Jun-2019 06:23
Surr: Toluene-d8	103			82-127	%REC	1	14-Jun-2019 06:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: EQ Blank Port 2
 Collection Date: 06-Jun-2019 09:50

ANALYTICAL REPORT

WorkOrder: HS19060423
 Lab ID: HS19060423-06
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C		Method: SW8260		Analyst: PC			
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	14-Jun-2019 06:48
Surr: 1,2-Dichloroethane-d4	96.7			70-126	%REC	1	14-Jun-2019 06:48
Surr: 4-Bromofluorobenzene	92.8			82-124	%REC	1	14-Jun-2019 06:48
Surr: Dibromofluoromethane	101			77-123	%REC	1	14-Jun-2019 06:48
Surr: Toluene-d8	102			82-127	%REC	1	14-Jun-2019 06:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Duplicate
 Collection Date: 06-Jun-2019 00:00

ANALYTICAL REPORT
 WorkOrder: HS19060423
 Lab ID: HS19060423-07
 Matrix: Liquid

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method: SW8260						Analyst: PC
Benzene	0.62		0.030	0.25	mg/L	50	19-Jun-2019 23:21
<i>Surr: 1,2-Dichloroethane-d4</i>	93.9			70-126	%REC	50	19-Jun-2019 23:21
<i>Surr: 4-Bromofluorobenzene</i>	95.7			82-124	%REC	50	19-Jun-2019 23:21
<i>Surr: Dibromofluoromethane</i>	95.2			77-123	%REC	50	19-Jun-2019 23:21
<i>Surr: Toluene-d8</i>	100			82-127	%REC	50	19-Jun-2019 23:21

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 Sample ID: Trip Blank
 Collection Date: 06-Jun-2019 00:00

ANALYTICAL REPORT
 WorkOrder:HS19060423
 Lab ID:HS19060423-08
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES - SW8260C	Method:SW8260						Analyst: PC
Benzene	< 0.00060		0.00060	0.0050	mg/L	1	13-Jun-2019 14:56
Surr: 1,2-Dichloroethane-d4	105			70-126	%REC	1	13-Jun-2019 14:56
Surr: 4-Bromofluorobenzene	104			82-124	%REC	1	13-Jun-2019 14:56
Surr: Dibromofluoromethane	101			77-123	%REC	1	13-Jun-2019 14:56
Surr: Toluene-d8	106			82-127	%REC	1	13-Jun-2019 14:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 20-Jun-19

WEIGHT LOG

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19060423

Batch ID: 3146 Method: VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS19060423-01	1	5.138 (g)	5 (mL)	0.97	Bulk (5030B)
HS19060423-03	1	5.118 (g)	5 (mL)	0.98	Bulk (5030B)

ALS Houston, US

Date: 20-jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19060423

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R340284	Test Name : VOLATILES BY SW8260C				Matrix: Oil	
HS19060423-01	S-1 (API HC)	06 Jun 2019 09:19			12 Jun 2019 01:35	500
HS19060423-03	S-5 (T-40)	06 Jun 2019 08:51			12 Jun 2019 01:10	50
Batch ID R340490	Test Name : VOLATILES - SW8260C				Matrix: Water	
HS19060423-04	Field Blank	06 Jun 2019 09:37			14 Jun 2019 05:58	1
HS19060423-05	EQ Blank Port 1	06 Jun 2019 09:50			14 Jun 2019 06:23	1
HS19060423-06	EQ Blank Port 2	06 Jun 2019 09:50			14 Jun 2019 06:48	1
Batch ID R340496	Test Name : VOLATILES - SW8260C				Matrix: Water	
HS19060423-08	Trip Blank	06 Jun 2019 00:00			13 Jun 2019 14:56	1
Batch ID R340871	Test Name : VOLATILES - SW8260C				Matrix: Liquid	
HS19060423-02	S-3 (API Water)	06 Jun 2019 09:33			19 Jun 2019 22:56	50
HS19060423-07	Duplicate	06 Jun 2019 00:00			19 Jun 2019 23:21	50

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19060423

QC BATCH REPORT

Batch ID: R340284 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C					
MBLK		Sample ID: MBLKW2-061119		Units: ug/Kg		Analysis Date: 11-Jun-2019 23:30			
Client ID:		Run ID: VOA8_340284		SeqNo: 5117424		PrepDate:		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 25	250							
Surr: 1,2-Dichloroethane-d4	2315	0	2500	0	92.6	76 - 125			
Surr: 4-Bromofluorobenzene	2341	0	2500	0	93.6	80 - 120			
Surr: Dibromofluoromethane	2149	0	2500	0	86.0	80 - 119			
Surr: Toluene-d8	2405	0	2500	0	96.2	81 - 118			

LCS		Sample ID: VLCSW2-061119		Units: ug/Kg		Analysis Date: 11-Jun-2019 22:40			
Client ID:		Run ID: VOA8_340284		SeqNo: 5117423		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	45.77	5.0	50	0	91.5	75 - 124			
Surr: 1,2-Dichloroethane-d4	46.38	0	50	0	92.8	76 - 125			
Surr: 4-Bromofluorobenzene	48.92	0	50	0	97.8	80 - 120			
Surr: Dibromofluoromethane	44.17	0	50	0	88.3	80 - 119			
Surr: Toluene-d8	48.51	0	50	0	97.0	81 - 118			

MS		Sample ID: HS19060030-06MS		Units: ug/Kg		Analysis Date: 12-Jun-2019 00:20			
Client ID:		Run ID: VOA8_340284		SeqNo: 5117426		PrepDate:		DF: 1000	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	113000	4200	42500	69320	103	70 - 130			
Surr: 1,2-Dichloroethane-d4	38100	0	42500	0	89.6	70 - 126			
Surr: 4-Bromofluorobenzene	40110	0	42500	0	94.4	70 - 130			
Surr: Dibromofluoromethane	36690	0	42500	0	86.3	70 - 130			
Surr: Toluene-d8	42180	0	42500	0	99.3	70 - 130			

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19060423

QC BATCH REPORT

Batch ID: R340284 (0)		Instrument: VOA8		Method: VOLATILES BY SW8260C					
MSD		Sample ID: HS19060030-06MSD		Units: ug/Kg		Analysis Date: 12-Jun-2019 00:45			
Client ID:		Run ID: VOA8_340284		SeqNo: 5117427		PrepDate:		DF: 1000	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	116700	4200	42500	69320	112	70 - 130	113000	3.27	30
Surr: 1,2-Dichloroethane-d4	40750	0	42500	0	95.9	70 - 126	38100	6.73	30
Surr: 4-Bromofluorobenzene	43070	0	42500	0	101	70 - 130	40110	7.12	30
Surr: Dibromofluoromethane	38830	0	42500	0	91.4	70 - 130	36690	5.67	30
Surr: Toluene-d8	43940	0	42500	0	103	70 - 130	42180	4.08	30
The following samples were analyzed in this batch:									
		HS19060423-01		HS19060423-03					

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19060423

QC BATCH REPORT

Batch ID: R340490 (0)		Instrument: VOA9		Method: VOLATILES - SW8260C					
MBLK	Sample ID: VBLKW-190613	Units: ug/L		Analysis Date: 13-Jun-2019 23:48					
Client ID:	Run ID: VOA9_340490	SeqNo: 5122208		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	48.22	0	50	0	96.4	70 - 130			
Surr: 4-Bromofluorobenzene	47.32	0	50	0	94.6	82 - 115			
Surr: Dibromofluoromethane	49.54	0	50	0	99.1	73 - 126			
Surr: Toluene-d8	50.27	0	50	0	101	81 - 120			
LCS	Sample ID: VLCSW-190613	Units: ug/L		Analysis Date: 13-Jun-2019 22:58					
Client ID:	Run ID: VOA9_340490	SeqNo: 5122207		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	19.34	5.0	20	0	96.7	74 - 120			
Surr: 1,2-Dichloroethane-d4	46.43	0	50	0	92.9	70 - 130			
Surr: 4-Bromofluorobenzene	48.58	0	50	0	97.2	82 - 115			
Surr: Dibromofluoromethane	50.69	0	50	0	101	73 - 126			
Surr: Toluene-d8	49.2	0	50	0	98.4	81 - 120			
MS	Sample ID: HS19060352-01MS	Units: ug/L		Analysis Date: 14-Jun-2019 01:02					
Client ID:	Run ID: VOA9_340490	SeqNo: 5122211		PrepDate:		DF: 500			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	47560	2500	10000	35900	117	70 - 127			
Surr: 1,2-Dichloroethane-d4	23820	0	25000	0	95.3	70 - 126			
Surr: 4-Bromofluorobenzene	24480	0	25000	0	97.9	82 - 124			
Surr: Dibromofluoromethane	25650	0	25000	0	103	77 - 123			
Surr: Toluene-d8	25090	0	25000	0	100	82 - 127			

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19060423

QC BATCH REPORT

Batch ID: R340490 (0)		Instrument: VOA9		Method: VOLATILES - SW8260C					
MSD	Sample ID: HS19060352-01MSD	Units: ug/L		Analysis Date: 14-Jun-2019 01:27					
Client ID:	Run ID: VOA9_340490		SeqNo: 5122212		PrepDate:		DF: 500		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	43240	2500	10000	35900	73.4	70 - 127	47560	9.51	20
Surr: 1,2-Dichloroethane-d4	23930	0	25000	0	95.7	70 - 126	23820	0.442	20
Surr: 4-Bromofluorobenzene	23720	0	25000	0	94.9	82 - 124	24480	3.16	20
Surr: Dibromofluoromethane	25310	0	25000	0	101	77 - 123	25650	1.33	20
Surr: Toluene-d8	24390	0	25000	0	97.6	82 - 127	25090	2.85	20
The following samples were analyzed in this batch:									
HS19060423-04 HS19060423-05 HS19060423-06									

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19060423

QC BATCH REPORT

Batch ID: R340496 (0)		Instrument: VOA6		Method: VOLATILES - SW8260C						
MBLK	Sample ID: VBLKW-190613		Units: ug/L		Analysis Date: 13-Jun-2019 11:20					
Client ID:		Run ID: VOA6_340496		SeqNo: 5122301		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	

Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	51.79	0	50	0	104	70 - 130			
Surr: 4-Bromofluorobenzene	52.14	0	50	0	104	82 - 115			
Surr: Dibromofluoromethane	49.75	0	50	0	99.5	73 - 126			
Surr: Toluene-d8	53.84	0	50	0	108	81 - 120			

LCS	Sample ID: VLCSW-190613	Units: ug/L			Analysis Date: 13-Jun-2019 10:31				
Client ID:	Run ID: VOA6_340496	SeqNo: 5122300			PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Benzene	22.06	5.0	20	0	110	74 - 120			
Surr: 1,2-Dichloroethane-d4	54.14	0	50	0	108	70 - 130			
Surr: 4-Bromofluorobenzene	51.65	0	50	0	103	82 - 115			
Surr: Dibromofluoromethane	54.16	0	50	0	108	73 - 126			
Surr: Toluene-d8	44.72	0	50	0	89.4	81 - 120			

MS	Sample ID: HS19060512-01MS			Units: ug/L		Analysis Date: 13-Jun-2019 13:44			
Client ID:	Run ID: VOA6_340496			SeqNo: 5122307		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Benzene	17.99	5.0	20	0	90.0	70 - 127			
Surr: 1,2-Dichloroethane-d4	52.63	0	50	0	105	70 - 126			
Surr: 4-Bromofluorobenzene	53.28	0	50	0	107	82 - 124			
Surr: Dibromofluoromethane	50.85	0	50	0	102	77 - 123			
Surr: Toluene-d8	52.89	0	50	0	106	82 - 127			

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19060423

QC BATCH REPORT

Batch ID: R340496 (0) Instrument: VOA6 Method: VOLATILES - SW8260C

MSD	Sample ID: HS19060512-01MSD			Units: ug/L		Analysis Date: 13-Jun-2019 14:08				
Client ID:	Run ID: VOA6_340496			SeqNo: 5122308		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	18.13	5.0	20	0	90.6	70 - 127	17.99	0.73	20	
Surr: 1,2-Dichloroethane-d4	51.82	0	50	0	104	70 - 126	52.63	1.54	20	
Surr: 4-Bromofluorobenzene	52.15	0	50	0	104	82 - 124	53.28	2.16	20	
Surr: Dibromofluoromethane	50.74	0	50	0	101	77 - 123	50.85	0.221	20	
Surr: Toluene-d8	52.35	0	50	0	105	82 - 127	52.89	1.03	20	

The following samples were analyzed in this batch: HS19060423-08

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19060423

QC BATCH REPORT

Batch ID: R340871 (0)		Instrument: VOA9		Method: VOLATILES - SW8260C					
MBLK	Sample ID: VBLKW-190619	Units: ug/L		Analysis Date: 19-Jun-2019 13:51					
Client ID:	Run ID: VOA9_340871	SeqNo: 5131259		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	< 0.60	5.0							
Surr: 1,2-Dichloroethane-d4	44.62	0	50	0	89.2	70 - 130			
Surr: 4-Bromofluorobenzene	46.99	0	50	0	94.0	82 - 115			
Surr: Dibromofluoromethane	47.95	0	50	0	95.9	73 - 126			
Surr: Toluene-d8	50.54	0	50	0	101	81 - 120			
LCS	Sample ID: VLCSW-190619	Units: ug/L		Analysis Date: 19-Jun-2019 13:01					
Client ID:	Run ID: VOA9_340871	SeqNo: 5131258		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	18.01	5.0	20	0	90.1	74 - 120			
Surr: 1,2-Dichloroethane-d4	43.39	0	50	0	86.8	70 - 130			
Surr: 4-Bromofluorobenzene	49.35	0	50	0	98.7	82 - 115			
Surr: Dibromofluoromethane	49.22	0	50	0	98.4	73 - 126			
Surr: Toluene-d8	51.8	0	50	0	104	81 - 120			
MS	Sample ID: HS19060847-01MS	Units: ug/L		Analysis Date: 19-Jun-2019 15:05					
Client ID:	Run ID: VOA9_340871	SeqNo: 5131261		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	22.46	5.0	20	0	112	70 - 127			
Surr: 1,2-Dichloroethane-d4	43.58	0	50	0	87.2	70 - 126			
Surr: 4-Bromofluorobenzene	48.41	0	50	0	96.8	82 - 124			
Surr: Dibromofluoromethane	48.93	0	50	0	97.9	77 - 123			
Surr: Toluene-d8	51.75	0	50	0	104	82 - 127			

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
 Project: BWON Monthly Sampling (EOL)
 WorkOrder: HS19060423

QC BATCH REPORT

Batch ID: R340871 (0)		Instrument: VOA9		Method: VOLATILES - SW8260C					
MSD	Sample ID: HS19060847-01MSD	Units: ug/L		Analysis Date: 19-Jun-2019 15:30					
Client ID:	Run ID: VOA9_340871		SeqNo: 5131262		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	19.95	5.0	20	0	99.7	70 - 127	22.46	11.9	20
Surr: 1,2-Dichloroethane-d4	44.56	0	50	0	89.1	70 - 126	43.58	2.22	20
Surr: 4-Bromofluorobenzene	47.62	0	50	0	95.2	82 - 124	48.41	1.64	20
Surr: Dibromofluoromethane	48.61	0	50	0	97.2	77 - 123	48.93	0.652	20
Surr: Toluene-d8	50.17	0	50	0	100	82 - 127	51.75	3.11	20
The following samples were analyzed in this batch: HS19060423-02 HS19060423-07									

ALS Houston, US

Date: 20-Jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
WorkOrder: HS19060423

**QUALIFIERS,
ACRONYMS, UNITS**
Qualifier Description

*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym Description

DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported Description

mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

ALS Houston, US

Date: 20-Jun-19

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Illinois	004438	29-Jun-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Louisiana	03087	30-Jun-2019
Maryland	343, 2018-2019	30-Jun-2019
North Carolina	624-2019	31-Dec-2019
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

ALS Houston, US

Date: 20-jun-19

Client: Navajo Refining Company
Project: BWON Monthly Sampling (EOL)
Work Order: HS19060423

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19060423-01	S-1 (API HC)	Login	08/06/2019 15:04:48	PMG	VOA254
HS19060423-02	S-3 (API Water)	Login	08/06/2019 15:04:48	PMG	VOA254
HS19060423-03	S-5 (T-40)	Login	08/06/2019 15:04:48	PMG	VOA254
HS19060423-04	Field Blank	Login	08/06/2019 15:04:48	PMG	VOA254
HS19060423-05	EQ Blank Port 1	Login	08/06/2019 15:04:48	PMG	VOA254
HS19060423-06	EQ Blank Port 2	Login	08/06/2019 15:04:48	PMG	VOA254
HS19060423-07	Duplicate	Login	08/06/2019 15:04:48	PMG	VOA254
HS19060423-08	Trip Blank	Login	08/06/2019 15:04:48	PMG	VOA254

ALS Houston, US

Date: 20-Jun-19

Sample Receipt Checklist

Client Name: Navajo Refining

Date/Time Received: 07-Jun-2019 09:00

Work Order: HS19060423

Received by: NDR

Checklist completed by: Pareesh M. Giga
eSignature8-Jun-2019
DateReviewed by: Corey Grandits
eSignature10-Jun-2019
DateMatrices: LiquidCarrier name: FedEx

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐No ☐Not Present ☒

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

VOA/TX1005/TX1006 Solids in hermetically sealed vials?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☒No ☐

1 Page(s)

Chain of custody signed when relinquished and received?

Yes ☒No ☐

COC IDs:none

Samplers name present on COC?

Yes ☒No ☐

Chain of custody agrees with sample labels?

Yes ☒No ☐

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☒No ☐

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

1.5c U/c

IR11

Cooler(s)/Kit(s):

HazmatPak

Date/Time sample(s) sent to storage:

6/7/19 20:00

Water - VOA vials have zero headspace?

Yes ☒No ☐No VOA vials submitted ☐

Water - pH acceptable upon receipt?

Yes ☒No ☐N/A ☐

pH adjusted?

Yes ☐No ☒N/A ☐

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:



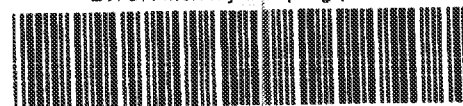
Chain of Custody Form

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HS19060423

Navajo Refining Company
BWON Monthly Sampling (EOL)V, UT
7700PA
1903

280



Customer Information			Project Information				Request for Analysis												
Purchase Order			Project Name	BWON Monthly Sampling (EOL)			A	VOLATILES (8260) Benzene											
Work Order			Project Number				B												
Company Name	Navajo Refining Company LLC		Bill To Company	Holly Frontier Navajo Refining LLC			C												
Send Report To	Tyler Turner Gabi Combs		Invoice Attn	Susie Aguilar			D												
Address	P.O. Box 159		Address	501 East Main			E												
City/State/Zip	Artesia, NM 88211-0159		City/State/Zip	Artesia, New Mexico 88210			F												
Phone	(575) 748-3311		Phone	(575) 748-3311			G												
Fax	(575) 746-5451		Fax	(575) 746-5451			H												
e-Mail Address	turner.am@gmail.com Gabiela.Combs@hollyfrontier.com		e-Mail Address	Suzanne.Aguilar@hollyfrontier.com			I												
							J												
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	S-1 (API HC)	06/06/19	9:19 AM	Liquid	8	1	X												
2	S-3 (API Water)	06/06/19	9:33 AM	Liquid	8,1	1	X												
3	S-5 (T-40)	06/06/19	8:51 AM	Liquid	8	1	X												
5	Field Blank	06/06/19	9:37 AM	Liquid	8,1	1	X												
6	EQ Blank Port 1	06/06/19	9:50 AM	Liquid	8,1	1	X												
7	EQ Blank Port 2	06/06/19	9:50 AM	Liquid	8,1	1	X												
8	Duplicate	06/06/19	XXX	Liquid	8,1	1	X												
9	Trip Blank	06/06/19	XXX	Liquid	8,1	2	X												
10	Temperature Blank	06/06/19		Liquid		1													

Sampler(s): Please Print & Sign Brady Hubbard Brady Hubbard Shipment Method: FedEx Required Turnaround Time: ☐ Other ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour Results Due Date:

Relinquished by: Brady Hubbard Date: 6-6-19 Time: 4:00 Received by: NC Notes:

Relinquished by: Brady Hubbard Date: 6/7/19 Time: 09:00 Received by (Laboratory): NC Coolant Temp: 15 QC Package: (Check Box Below)

Level II: Standard QC TRRP-Checklist
Level III: Std QC + Raw Data TRRP Level IV
Level IV: SW846 CLP-Like
Other:

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
 1. Fold the printed page along the horizontal line.
 2. Place label in shipping pouch and affix it to your shipment.

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