

Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	02/25/2020	
Media Program:	Water	
Regulatory Program(s)	CWA	
Company Name:	HollyFrontier-Navajo Refining LLC	
Facility Name:	Navajo Refining LLC-Artesia	
Facility Physical Location:	501 East Main	
(city, state, zip code)	Artesia, New Mexico 88210	
Mailing address:	501 East Main	
(city, state, zip code)	Artesia, New Mexico 88210	
County/Parish:	Eddy	
Facility Phone Number	575-748-3311	
Facility Contact:	Scott Denton	Environmental Manager
	Scott.Denton@hollyfrontier.com	
FRS Number:	110070368471	
Identification/Permit Number:	NMP000006	
Media Identifier Number:	N/A	
NAICS:	324110	
SIC:	2911	
Personnel participating in inspection:		
Michael Holder	HollyFrontier	Corporate Environmental Specialist
Robert Combs, Ph. D	HollyFrontier	Environmental Specialist
Lewis (Randy) Dade	HollyFrontier	Environmental Specialist IV
David Esparza, PE	USEPA	Environmental Engineer
EPA Lead Inspector Signature/Date		
	David Esparza	Date
Supervisor Signature/Date		
	Carol Peters	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

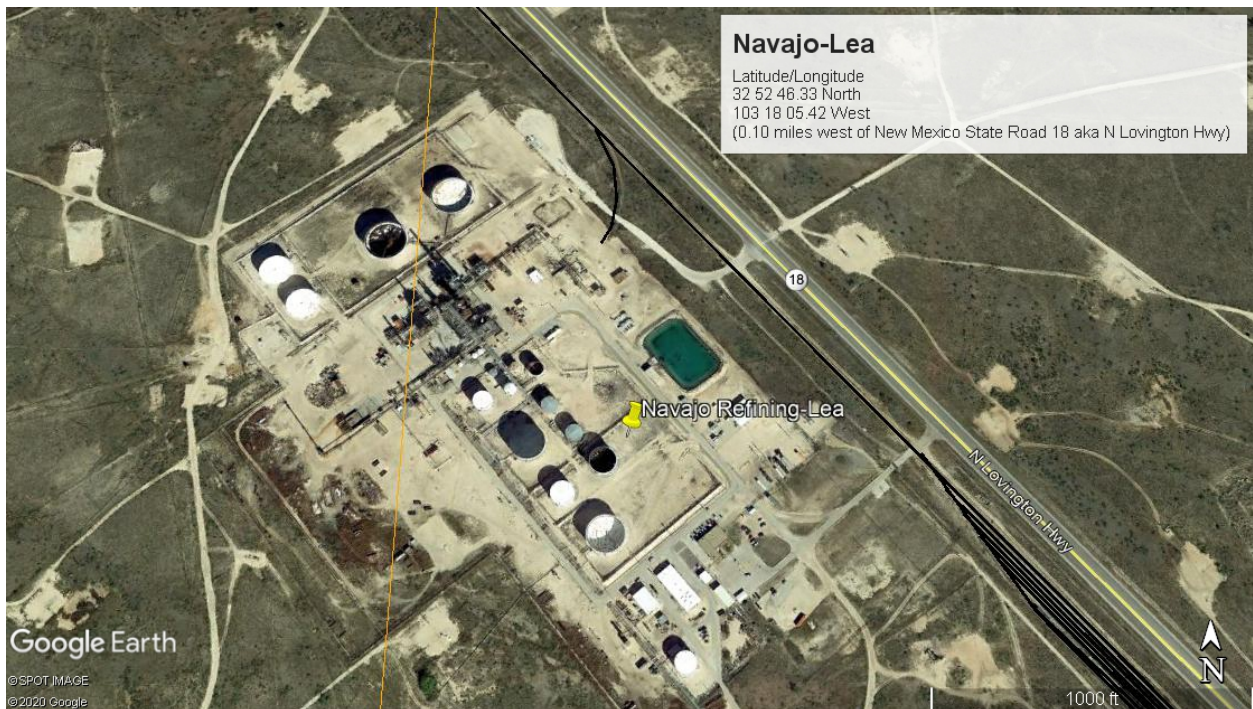
EPA Region 6 inspector David Esparza, PE, arrived at the HollyFrontier-Navajo Refining-Artesia facility (hereinafter referred to as Navajo-Artesia) at approximately 1:00 PM on February 25, 2020 for an unannounced inspection. I met with Mr. Michael Holder, Corporate Environmental Specialist, Mr. Robert Combs, Ph.D, Environmental Specialist and Mr. Lewis (Randy) Dade, Environmental Specialist IV, presented my credentials and informed them that this was an EPA inspection to determine the Navajo-Artesia's compliance under the Clean Water Act (CWA). This compliance evaluation inspection (CEI) was conducted under the authority of the National Pollutant Discharge Elimination System (NPDES) permit program, in accordance with the CWA. The generation of this report is based on information supplied by Navajo-Artesia representatives, observations made by the United States Environmental Protection Agency (US EPA) inspector, and records and reports maintained by the facility (Navajo-Artesia), and the US EPA. Before leaving the facility, an exit briefing was held at approximately 4:30 PM with above mentioned Navajo-Artesia staff members to explain areas of concern noted at the time of the inspection and request representative photograph copies of the facility records. It should be noted the facilities' effluent is discharged to the City of Artesia's Wastewater Treatment Plant (WWTP) under an agreement between the City of Artesia (COA) and Navajo-Artesia dated June 6, 2013 and updated in May 2014. Additionally, Navajo-Artesia terminated their previous NPDES permit NM0030589 on September 6, 2006.

FACILITY DESCRIPTION

The Navajo refinery is owned and operated by HollyFrontier and is comprised of two (2) facilities. The Artesia facility (NMP000006) is located at 501 East Main, Artesia, Eddy County, New Mexico (depicted in Aerial Image #1 below) and another located at 7406 South Main, Lovington, Lea County, New Mexico (depicted in Aerial Image #2 below) (hereinafter referred to as Navajo-Lea (NMP000007)). These two (2) facilities operate in conjunction with one another and are considered to be a single refinery. The total capacity of the Navajo refinery is 100,000 barrels per stream day (bpsd). BPSD is the maximum number of barrels a distillation facility can process within a 24-hour period when operating at full capacity, exclusive of downtime. The Navajo-Artesia facility is used for "cracking" (thermal & catalytic cracking) in accordance with Petroleum Refining Effluent Guidelines and Standards ([40 CFR Part 419, Subpart B](#)). This process breaks large, heavy hydrocarbons from topping process into smaller hydrocarbons. The City of Artesia (COA) and Navajo entered into a wastewater service agreement for the disposal of Navajo's effluent into the City's WWTP in 2013, this 2013 agreement was updated in May 2014 to include selenium removal technology (Appendix 4 City of Artesia and Navajo Refining Discharge Agreement).



Aerial Image #1: Overall view of the Navajo Refining-Artesia. Aerial from Google Earth maps.



Aerial Image #2: Overall view of the Navajo Refining-Lea. Aerial from Google Earth maps.

Navajo-Artesia encompasses approximately 560-acres and has operated at this location since 1969. The staff at this facility consists of approximately 320 full-time equivalent (FTE) positions, while the Navajo-Lea facility consists of 30 FTE positions. Note: the Navajo-Lea (was established circa 1974) facility

occupies a footprint of approximately 105-acres of land. Hours of operation at both facilities consist of two (2) 12-hour shifts per day, 7 days per week. Typically, there are approximately 140 contract personnel onsite. However, during a “turnaround” (maintenance period) the number of contractors onsite can increase from 500+ up to 1,500 personnel. A typical “turnaround” is on a 4-5-year cycle and can last from 4-6 weeks in duration. Facility operations can decrease from 100% to 20%, though specific processes are prioritized as some of these processes are dependent on others. The previous or last “turnaround” was in 2017. Navajo-Artesia ancillary processes include crude distillation facilities, a fluid catalytic cracker (FCC), vacuum distillation equipment, catalytic reforming and sulphur recovery units. Additional, processes are hydrofluoric (HF) alkylation, hydrodesulphurization, isomerisation and product blending facilities.

Navajo-Artesia maintains a tank farm with a feedstock and product storage capacity of 0.2M barrels.

Navajo-Lea features crude and vacuum distillation units and maintains a tank farm with feedstock and a product storage capacity of 1.1M barrels.

For discussion clarification initial processing of the crude oil is carried out at the Navajo-Lea facility and the output is sent approximately 65-miles west to the Navajo-Artesia facility via three (3) pipelines.

Section II - OBSERVATIONS

I observed the following and the following information was requested and provided via electronic mail (email) (respective email dates will be delineated below):

- Photograph copy of the site plan (map), delineating the two (2) cooling tower locations and wastewater treatment plant (WWTP). Additionally, notation of the co-mingling point with respect to the cooling towers and the WWTP (email request for information (RFI) documentation dated February 27, 2020) (Appendix 3: Navajo-Artesia Site Plan and Flow Paths).
- Photograph copies of the analytical results and chain of custody (CoC) forms for the months of November and December 2019 and January 2020, inclusive of internal and contract results (email request for information (RFI) documentation dated February 27, 2020). By an email dated March 6, 2020, Navajo-Artesia provided the requested documents, though a review of the documents indicates collected samples being held for several days prior to relinquishment for analytical analysis. Note: Though the samples are within recognized holding times it is not clear why or how the samples are stored/maintained.
- A narrative of the facility analytical parameters and discussion of standard operating procedures (SOP) (email request for information documentation dated February 27, 2020).
- Documentation with respect to the make, model, serial number of the flow rate metering device, inclusive of installation and calibration dates (email request for information (RFI) documentation dated February 27, 2020).

- Documentation with respect to the flow rate totals (weekly and monthly) for the months of November and December 2019 and January 2020 (email request for information (RFI) documentation dated February 27, 2020).
- Clarification whether or not the respective totalizing meters (Y-1, Y-11 and WWTP) are “direct read” in gallons or do the meters have a multiplier affixed to the face or are they electronic. If electronic, can you provide the calibration dates? Furthermore, in referring to the attached “site map” does an individual totalizing meter measure the flows at the Tie-in point (WWTP and Cooling Tower Blowdown) (email request for information (RFI) documentation dated March 24, 2020)?
- Identification with respect to the flow path of the collection lines traversing from Y-1 to Y-11 thence to the Tie-in point and the flow path of the WWTP collection lines prior to the Tie-in point. Additionally, can you verify the size and type of the collection lines (i.e. is it similar to the 4-inch high density polyethylene (HDPE) pipe observed at the Tie-in location). Please refer to your POTW Streams and Sample Point attachment with respect to my “comment bubble” (email request for information (RFI) documentation dated March 24, 2020).
- The date the Lovington facility was established (telephone conversation and email request for information (RFI) documentation dated April 1, 2020).
- A narrative of the facility analytical parameters and discussion of standard operating procedures (SOP) documentation (telephone conversation and email request for information (RFI) dated April 1, 2020). Pursuant to this request, Navajo-Artesia provided a written narrative titled “In-House Sampling and Analysis Standard Operating Procedure (SOP) Summaries” on April 22, 2020 (Appendix 5 Navajo-Artesia Sampling and Analysis Standard Operating Procedure (SOP) Summaries). Though the summary (Item #2 Artesia Refinery Laboratory- Hach Method 10205 (using Hach 6000 DR Meter) for Ammonia Nitrogen) does indicate manufacturer’s specifications are followed and in-house calibrations are performed in accordance with those specifications, it is not clear or stated when and/or if a certified third party entity has calibrated the meter (Hach 6000 DR Meter §6.7 System Checks). Additionally, the narrative describes placing some of the samples on ice prior to analysis or extraction, though does not delineate any form of temperature control or temperature monitoring equipment calibration (i.e. thermometers). Previously, HollyFrontier verbalized using a contract analytical laboratory in Hobbs, New Mexico named Cardinal Laboratory (<http://cardinallabsnm.com>) for both Navajo-Artesia and Navajo-Lea outside analytical analysis, though it appears Cardinal Labs-New Mexico is certified by the New Mexico Environment Department (NMED) for drinking water for the analysis of drinking water only. Furthermore, the SOP does not delineate recognized methodology with respect to sampling protocol (i.e. aqueous sample collection (grab versus composite), sample maintenance (preservatives, storage, transport) for on-site/contract personnel or their contract laboratory.

Section III – AREAS OF CONCERN

After receipt and review of the requested documentation the following areas of concern (AOCs) have been identified and were not included in the closing conference:

- Chain of Custody form- a review of the chain of custody (CoC) forms which accompanied the wastewater analytical results for the months of November and December 2019 and January 2020 reveal possible inconsistencies. Questions arise regarding the type of sampling containers, extended holding times, securing of samples during extended holding times etc. By an email dated March 6, 2020, Navajo-Artesia provided the requested documents, though a review of the documents indicates collected samples being held for several days prior to relinquishment for analytical analysis. Note: Though the samples are within recognized holding times it is not clear why, how or where the samples are stored/maintained.
- Flow meter calibration and readings- it was difficult to ascertain from the facility provided documentation when and/or if the meters were calibrated, what the flow totals were, confusion with respect to serial numbers (cooling tower blow down Y-1 versus Y-11), and time lapses sometimes in years with respect to when flow meter readings were recorded.
- Comingling- It was identified at the time of the inspection, flow volumes from the cooling tower blowdown (Y-1 and Y-11) and the facility WWTP were comingled (See Navajo-Artesia Cooling Tower Blowdown & Discharge to COA POTW Flow Path Map) prior to the onsite facility sampling point and discharge to the COA collection point. Additionally, the facility April 6th, response indicates a third CT (Y-2) contributes to this flow volume (Appendix 1: Photograph #1 and Photograph #2 and Photograph #3) (Appendix 2: HollyFrontier (Navajo-Artesia) April 6, 2020 RFI Response).
- Reporting gallons per minute (gpm) versus gallons per day (gpd) - Pursuant to the discharge agreement with COA dated 2013 and updated in 2014 Navajo-Artesia (Appendix 4: City of Artesia and Navajo Refining Discharge Agreement) was not to exceed a total wastewater volume of 237,600 gallons per day (gpd) (21,600 gpd industrial wastewater and 216,000 gpd non-domestic wastewater). This equates to approximately 165 gallons per minute (gpm). However, in their Spring 2018 Report- Discharge Flow (Table 2) indicates average and maximum flow quantities in gpm. The March 24, 2020, RFI requested clarification whether the stated "daily average flow resulted from one (1) individual meter at Cooling Towers (CT) Y-1 and Y-11 (combined) or whether it was an average of the two (2) meters. The April 6, 2020, facility response offered the "daily average flow CT blowdown and "daily maximum flow CT blowdown provided in the semiannual report are not readings from either of the individual meters at Y-1 or Y-11. These reported values are flow statistics derived from the concurrent daily sum of both meters to give a representation of total CT blowdown discharged to the COA WWTP. Additionally, a notation in the facility response (footnote 1) states the flow meter also measures the flow contribution from CT Y-2. For clarification and/or comparison of Navajo-Artesia Spring 2018 Report flow volumes (CT and WWTP) with respect to COA recorded flow volumes see Table 1 below.

Table 1: Comparison of Navajo-Artesia Spring 2018 Report Flow Volumes to City of Artesia Recorded Flow Volumes

Period	Facility Daily Average Flow CT Blowdown (GPM)	Facility Daily Maximum Flow CT Blowdown (GPM)	Facility Daily Average Flow WWTP (GPM)	Facility Daily Maximum Flow WWTP (GPM)	(A) Facility Total Average Flow (GPM)	(B) Facility Total Maximum Flow (GPM)	(C) City of Artesia WWTP Recorded Flow (GPM)	Percent Change (difference) (+/_)
Dec. 2017	53	62	2.6	3.0	55.6	65.0	72.42	+30.25
Jan. 2018	52	63	0.2	2.9	52.2	65.9	75.0	+43.7
Feb. 2018	75	95	0.0	0.0	75.0	95.0	96.9	+29.2
Mar. 2018	76	106	0.5	5.0	76.5	111.0	108	+41.2
Apr. 2018	78	102	3.0	4.2	81.0	106.2	111	+37.0
May 2018	84	104	2.8	6.9	86.8	110.9	115	+32.5

Note: Though the volume totals do not exceed the Discharge Agreement amount (Appendix 4 City of Artesia and Navajo Refining Discharge Agreement) of approximately 165 gpm (237,000 gpd) the marked difference indicates a need for correction in reporting and recording. Furthermore, the April 6th response states calibration of the flow meters will occur more frequently or on an as needed basis but does not indicate certification/calibration by a qualified third-party entity. The calculations above use the Facility Total Average Flow (Column A) and the City of Artesia WWTP Recorded Flow (Column C) and the recognized mathematical percentage change equation $C-A/A \times 100\%$.

- Facility narrative regarding analytical parameters and standard operating procedures (SOP)- Pursuant to this request, Navajo-Artesia provided a written narrative titled “In-House Sampling and Analysis Standard Operating Procedure (SOP) Summaries” on April 22, 2020 (Appendix 5 Navajo-Artesia Sampling and Analysis Standard Operating Procedure (SOP) Summaries). Though the summary (Item #2 Artesia Refinery laboratory- Hach Method 10205 (using Hach 6000 DR Meter) for Ammonia Nitrogen) does indicate manufacturer’s specifications are followed and in-house calibrations are performed in accordance with those specifications, it is not clear or stated when and/or if a certified third party entity has calibrated the meter (Hach 6000 DR Meter §6.7 System Checks). Additionally, the narrative describes placing some of the samples on ice prior to analysis or extraction, though does not delineate any form of temperature control or temperature monitoring equipment calibration (i.e. thermometers). Additionally, HollyFrontier verbalized using a contract analytical laboratory in Hobbs, New Mexico named Cardinal Laboratory (<http://cardinallabsnm.com>) for both Navajo-Artesia and Navajo-Lea outside analytical analysis, though it appears Cardinal Labs-New Mexico is certified by the New Mexico Environment Department (NMED) for the analysis of drinking water only. Furthermore, the SOP

does not delineate recognized methodology with respect to sampling protocol (i.e. aqueous sample collection (grab versus composite), sample maintenance (preservatives, storage, transport) for on-site/contract personnel or their contract laboratory.

Section IV – FOLLOW UP

The facility April 6th response to the RFI indicates additional training of individuals and more frequent maintenance of onsite equipment.

The information received by EPA appurtenant to requests for information (RFI) at various dates, after exiting the Facility has been identified above.

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 3 photos taken 2/25/2020

Appendix 2 – HollyFrontier (Navajo-Artesia) April 6, 2020 RFI Response

Appendix 3 – Navajo-Artesia Site Plan and Flow Paths

Appendix 4 – City of Artesia and Navajo Refining Discharge Agreement

Appendix 5 – Navajo-Artesia Sampling and Standard Operating Procedure (SOP) Summaries

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: HollyFrontier/Navajo Refining-Artesia		
City: Artesia	County/Parish: Eddy	State: New Mexico



General picture of Navajo-Artesia collection “tie-in” point, where effluent from the on-site wwtp ties into the blowdown line from the non-contact cooling towers prior to the compliance sampling point. The collection line continues off-site where it flows to the City of Artesia’s monitoring station. February 25, 2020 5:09 PM (DSCN1729) (Photographed by D Esparza).



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: HollyFrontier/Navajo Refining-Artesia		
City: Artesia	County/Parish: Eddy	State: New Mexico



Close up picture of the Navajo-Artesia collection “tie-in” point, where effluent from the on-site wwtp ties into the blowdown line from the non-contact cooling towers prior to the compliance sampling point. Picture taken by Lewis (Randy) Dade. Time difference camera setting versus telephone automatic time change correction.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: HollyFrontier/Navajo Refining-Artesia		
City: Artesia	County/Parish: Eddy	State: New Mexico



Navajo-Artesia compliance sampling point. This sampling point is located approximately 3-feet north of the "tie-in" point. February 25, 2020 5:10 PM (DSCN1730) (Photographed by D Esparza).

Appendix 2
HollyFrontier (Navajo-Artesia)
April 6, 2020 RFI Response



April 6, 2020

Mr. David A. Esparza, P.E.
Environmental Engineer
U.S. Environmental Protection Agency
Water Enforcement Branch-Municipal/Industrial Section
Mail Code: 6-ECDWM
1201 Elm St., Suite 500
Dallas, Texas 75270
E-mail: esparza.david@epa.gov

Via Electronic Mail

Re: HollyFrontier Navajo Refining LLC ("Navajo") / Response to EPA Pretreatment-Related Follow-up Requests

Dear Mr. Esparza:

This letter and the attached respond to your recent pretreatment-related requests conveyed to Navajo by e-mail on March 24 and March 26, 2020, as follow-up to certain earlier pretreatment information that we submitted to EPA on March 5, 2020, pertaining to Navajo's Artesia and Lovington, NM refineries. Our response below and the attached generally track the sequence of the individual requests in your March 24th and March 26th e-mails. We also include reference to your question regarding analytical parameters sampled at the refineries, raised during our conversation of April 1, 2020.

EPA March 24, 2020 E-Mail

Requests for Clarification on Flow Rate Meter Mechanical Maintenance/Calibration Documents

You requested that we clarify certain aspects of the documents we submitted on March 5th pertaining to mechanical maintenance and calibration records for the three, relevant Artesia flow rate meters.

-- Response

- Entry of flow meter serial numbers: We previously provided the requested make, model, and serial number for the relevant Artesia flow rate metering devices in our March 5th submittal in a summary document (entitled "Artesia Flow Meter Info"). We are taking steps to help ensure that serial numbers are properly and accurately entered in future mechanical maintenance and calibration records for each of these flow meters, including the training of technicians on the importance of accuracy and completeness of documentation.
- Identification of flow meter service for the Y-1 cooling tower blowdown: All of these entries should be Y-1 (some were instead noted as Y-11). We are taking steps to help

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
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ensure that flow meter service is properly and accurately identified in these forms going forward, including the above-referenced training of technicians on the importance of accuracy and completeness of documentation.

- Calibration and maintenance schedule for flow meters:
 - We understand that the current flow meter for Y-1 cooling tower blowdown (10FT061)¹ was calibrated upon commissioning in November 2013. It was placed on a quarterly preventative maintenance and calibration schedule beginning in early 2016. Maintenance and calibration may also be performed more frequently if needed.
 - We understand that the current flow meter for the Y-11 cooling tower blowdown (10FT060) was calibrated upon commissioning in November 2013. It was placed on a quarterly preventative maintenance and calibration schedule in early 2016. Maintenance and calibration may also be performed more frequently if needed.
 - Calibration and maintenance work for the flow meter for the wastewater from the WWTP (80FT012) is performed on an as-needed basis. Going forward, calibration and preventative maintenance will be done on at least a quarterly basis or more frequently if needed.
- Definition of “WA”: This stands for the term, Work Authorization, and is also used interchangeably with term, Work Order.

Please note that, in addition to the further training of technicians as described above, we are also reviewing existing procedures for instrument calibration to include updated documentation requirements and reviewing calibration forms to ensure that work order number fields are added.

Nature of Flow Meters (Y-1, Y-11 and WWTP)

We understand you are requesting that we clarify whether or not the respective “totalizing” meters (Y-1, Y-11 and WWTP) are “direct read” in gallons (with or without a multiplier affixed to the face), or whether are they electronic. If electronic, you ask for the calibration dates.

-- *Response:* The meters do not totalize flow volume in gallons, but instead measure flowrate in gallons per minute (gpm). The meters are electronic, and meter indications (in gpm) are therefore electronically recorded and stored. See above regarding calibration dates.²

Request for Clarification of Artesia Cooling Tower Blowdown Flow

For the Artesia semiannual pretreatment reports, you requested that we clarify whether the stated “Daily Average Flow” results from either one individual meter at Y-1 and Y-11 (combined) or whether it is an average of the two meters.

¹ This flow meter also measures the flow contribution from cooling tower Y-2, as shown on the attached Artesia site map.

² Also, upon further review, we identified that there was a clerical error in the document previously provided on March 5, 2020, regarding flow meter information. Specifically, for the calibration dates for flow meter 80FT012 (Wastewater to City Sewer), we inadvertently referenced the pdf file for a different flow meter (10FT060 – Y-11 to POTW). This is corrected in the attached revision (“Artesia Flow Meter Info Rev. 1”).

-- *Response*: The “Daily Avg Flow CT Blowdown” and “Daily Max Flow CT Blowdown” provided in Table 2 (columns 2 and 3) of the semiannual reports are not readings from either of the individual meters at Y-1 or Y-11. Rather, these flow statistics are derived from the concurrent daily sum of both meters to give a representation of the total cooling tower blowdown discharged from the facility to the City of Artesia POTW.

Artesia Site Map

You asked if an individual totalizing meter measures the flows at the Tie-In Point (WWTP and Cooling Tower Blowdown (“CTBD”)) depicted in the Artesia site map that we provided on March 5th.

-- *Response*: There is no individual (fourth) meter at the Tie-In Point location that measures and reports total combined flow from CT Y-1, CT Y-11, and the WWTP. Navajo reports total flow to the City of Artesia as the numerical sum of these individual three meters.

March 26, 2020 E-mail

You requested that the Artesia site map that we provided on March 5th identify the flow path of the collection lines traversing from Y-1 to Y-11 and then to the Tie-In point, as well as the flow path of the WWTP collection lines prior to the Tie-In point. You also requested that Navajo verify the size and type of the collection lines.

-- *Response*: Please see attached revised Artesia site map with the requested information.

April 1, 2020 Request Regarding In-House Sampling Information

We understand from our phone conversation on April 1, 2020, that you are also requesting information on what parameters we sample for in-house at Artesia for purposes of quality assurance of the effluent to the POTW, along with frequency and related sampling procedures. (We previously provided information in tabular format for sampling used directly for regulatory compliance purposes. See March 5, 2020 submission and attachment thereto labeled, “HFNR Sampling and Analysis.”) You also requested the date that the Lovington facility was established.

We are currently gathering the additional information requested on April 1 and are targeting to provide that by April 10, 2020.

Mr. David Esparza
April 6, 2020
Page 4

Please let me know if you have any questions or would like to discuss our responses or the attached documents. I can be reached at 575-746-5487 or Scott.Denton@HollyFrontier.com.

Sincerely,



Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC

Attachments

c: Mr. Michael Tillman, EPA Region 6 (by e-mail)

Appendix 3

Navajo-Artesia Site Plan and Flow Paths

Drawing path: N:\Portland\Figures\HollyFrontier\Artesia\Outfall Site Plan.dwg



NOTES
AERIAL IMAGE REFERENCED FROM GOOGLE EARTH PRO 3/12/2016.

- LEGEND
- LOCATION OF OUTFALL TO CITY OF ARTESIA POTW
 - FLOW METER APPROXIMATE LOCATION
 - COOLING TOWER (CT) DISCHARGE LOCATION
 - 3" O.D. HDPE PIPELINE
 - 4" O.D. HDPE PIPELINE
 - 6" O.D. HDPE PIPELINE

HOLLYFRONTIER NAVAJO REFINING (HFNR)
501 E MAIN STREET
ARTESIA, NM 88211-0159

Report
EPA RESPONSE

Drawing
COOLING TOWER (CT) BLOWDOWN & WWTP
DISCHARGE TO CITY OF ARTESIA POTW

Date	April 3, 2020	Scale	AS SHOWN	Drawing No.
File Name	Outfall Site Plan	Project No.	122.01368.00024	1



Appendix 4
City of Artesia and Navajo Refining
Discharge Agreement

WASTEWATER SERVICE AGREEMENT

This Wastewater Service Agreement (this "Agreement") is entered into this 25th day of June, 2013 (the "Effective Date"), by and between Navajo Refining Company, L.L.C., a Delaware limited liability company, having a principal place of business in Artesia, New Mexico ("Navajo"), and the City of Artesia, New Mexico, a Municipal Corporation (the "City") (collectively herein referred to as the "Parties").

Recitals

WHEREAS, the City is a municipal corporation that owns and operates a wastewater treatment plant, located at the intersection of Richey and Haldeman Roads, Artesia, New Mexico (the "POTW");

WHEREAS, the City has adopted an ordinance governing the discharge of wastewater from industrial users into the POTW, § 7-3A-1, *et seq.*;

WHEREAS, the ordinance, at § 7-3A-3.C.2b, authorizes the City, in certain situations, to require pretreatment to an acceptable condition for discharge to the public sewers and to exercise control over the quantities and rates of discharge;

WHEREAS, federal regulations contained in 40 CFR Part 403 prescribe pretreatment standards for pollutants which pass through or interfere with treatment processes in POTWs and 40 CFR Part 419 Subpart (B), prescribes categorical standards for petroleum refining point source categories;

WHEREAS, Navajo owns and operates a petroleum refining facility partially within the city limits of Artesia, New Mexico (the "Facility");

WHEREAS, the Facility processes crude oil and petroleum distillates into petroleum products, such as diesel, gasoline and asphalt, and as a result, produces wastewater;

WHEREAS, Navajo generate wastewater discharges from its Facility, and needs to dispose of that wastewater in an environmentally acceptable fashion;

WHEREAS, the Facility discharges a portion of that wastewater to the City's wastewater collection infrastructure, through which the Facility's wastewater is deposited into the POTW;

WHEREAS, the Parties entered into an Agreement, dated July 14, 1999 (the "1999 Agreement"), pursuant to which Navajo discharged a portion of the Industrial Wastewater (i.e., WWTP Slip Stream) to the City;

WHEREAS, Navajo has discharged and continues to discharge its Domestic Wastewater to the City pursuant to City ordinance;

WHEREAS, the Parties entered into a Memorandum of Understanding, dated March 31, 2011 ("MOU"), pursuant to which Navajo's authorization to discharge wastewater into the POTW was extended and modified to include a portion of its Non-Domestic Wastewater (i.e., non-contact Cooling Tower Blowdown), which by its terms was set to expire on March 31, 2012;

WHEREAS, the Parties have amended the MOU to extend its term through June 25, 2013;

WHEREAS, by letter agreement dated November 28, 2012, the Parties extended the term by which Navajo was to have completed construction items listed in the MOU through December 21, 2012;

WHEREAS, Navajo has completed the construction items listed in the MOU;

WHEREAS, Navajo is in the process of reviewing options for the design and construction of a new or modified wastewater system, including wastewater pretreatment systems prior to discharge to the City; and

WHEREAS, the Parties now desire to enter into a new agreement concerning the discharge and disposal of the Facility's wastewater into the City's POTW that replaces and supersedes the MOU and the 1999 Agreement; and

WHEREAS, the Parties anticipate that the City will enact changes to the Ordinance that will govern the nature and extent of allowable discharges of wastewater to the POTW, and that the relationship between this Agreement and the Ordinance will be addressed at the time of the enactment of the Ordinance.

Agreement

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, the Parties hereby agree as follows:

A. Definitions:

The following terms, when capitalized herein, are defined as follows:

- (1) Code or Ordinance: The Artesia City Code, ordinances contained therein, or portions thereof, as appropriate or as may be adopted during term of this Agreement;
- (2) Cooling Tower Blowdown: Water used in cooling towers at the Facility that does not have direct contact with Facility process streams;
- (3) Discharge Limits: Effluent limitations applicable to Industrial Wastewater and Non-Domestic Wastewater as set forth in Attachment 1, attached to, and incorporated into, this Agreement, together with limits as identified in 40 CFR Part 419 Subpart (B);
- (4) Domestic Wastewater: The domestic wastewater flow into the City's sanitary sewer system from the office and administrative buildings of the Facility and enters the City's sanitary sewer system at 1710 Halderman, Artesia NM 88210;

(5) Hydrostatic test water: Wastewater generated during hydrostatic pressure testing for mechanical integrity of refinery tanks following construction or maintenance;

(6) Non-Domestic Wastewater: The wastewater flow from the Facility that is not Domestic Wastewater or Industrial Wastewater, and that does not have direct contact with Facility process streams or that is utilized in the refinery process for cooling, and includes Cooling Tower Blowdown and hydrostatic test water;

(7) Industrial Wastewater: The wastewater flow from the Facility that is in contact with the refining process that may be discharged to the Facility Class 1 injection wells, but which is not discharged to the Facility's injection wells; and

(8) Plant Investment Fee: A fee to be paid by Navajo to the City to compensate the City for its costs of the facilities necessary to take discharges as contemplated by this Agreement.

B. Acceptance of Wastewater:

(1) Pursuant to the terms and conditions set forth in this Agreement, the City agrees to accept that portion of the Facility's Non-Domestic Wastewater (i.e., Cooling Tower Blowdown) and Industrial Wastewater flow from Navajo for collection into its sanitary sewer system and treatment in the City's POTW, provided the wastewater meets the Discharge Limits.

(2) Additionally, the City agrees to accept hydrostatic test water upon Navajo's request, as specified in this Agreement.

(3) The City will continue to accept Navajo's Domestic Wastewater flow into its sanitary sewer system in accordance with the terms of the City's Ordinances. .

C. Connection and Delivery:

(1) Navajo shall, at its sole expense, and subject to delays caused by or resulting from acts beyond Navajo's control, including, without limitation, force majeure events, within nine (9) months of the Effective Date of this Agreement:

(a) Commence construction and installation of two (2) metering and sampling station manholes, the design and location of which shall be approved in advance of construction by the City, one at the discharge of the Domestic Wastewater flow, and the other at the discharge of the combined Industrial Wastewater and Non-Domestic Wastewater flow. The access shall generally be located on the City right of way in such a location that has unimpeded 24/7 access and is secured from public access. The location of the two sampling and metering manholes shall be designed such that each will collect its specific flows and each will discharge to separate manholes. The sampling and metering manholes shall be designed to accept the samplers and meters as agreed to by Navajo and the City. Unless otherwise agreed, the meters shall be capable of recording and displaying hourly data in gallons per minute, and shall include a totalizer measuring in thousand gallons, battery backup, a data download port, and a data storage capacity of 90 days. A continuous hydrocarbon tester with remote alarm capability and continuous recording shall be installed on the combined effluent flow of the Non-Domestic Wastewater and Industrial Wastewater flow, and on the Domestic Wastewater flow, which shall be of make and model agreed to by both parties. The electricity meeting required voltage standards for daily operation of the equipment in the manholes shall be furnished by Navajo at no cost or expense to the City; or

(b) In lieu of constructing and maintaining a meter, tester, and associated infrastructure for the Domestic Wastewater flows as set forth in subparagraph (a) above, Navajo may, at its sole option and expense, (i) complete and deliver to the City a verified sewer survey

of Navajo's on-site sewer connections identifying wastewater sources that are not the subject of this Agreement and that will need an "air gap" in their connection to the City's sanitary sewer system, which survey shall include a CCTV of Navajo's on-site collection system from its source to its connection to the City's system if required to verify any proposed cross connection, and (ii) have a registered professional engineer licensed within the State of New Mexico verify that no Industrial Wastewater and Non-Domestic Wastewater discharges can enter the City's sanitary sewer collection system, except as permitted by this Agreement.

(2) Navajo will promptly reimburse the City for all reasonable and documented costs and expenses directly related to the operation, sample collection and maintenance, measurement and reporting of the two metering manholes described above, which payment will be in addition to all other charges identified in this Agreement.

D. Reporting of Accidental Discharges

(1) In the case of any accidental discharge of Non-Domestic Wastewater or Industrial Wastewater, including, but not limited to, discharges of any non-routine nature, a non-customary batch discharge, or a slug load, that may interfere with the proper operation of the POTW, Navajo shall immediately and without delay upon discovery contact the City's Wastewater Supervisor at 575-748-0260. This notification shall include the location of the discharge, type of waste, concentration and volume of discharge, if known, and the corrective action taken by Navajo. In the event the City is or becomes aware of any such discharges, it shall promptly upon discovery notify Navajo of the nature and amount of the discharge.

(2) Within ten (10) business days following such occurrence, Navajo shall provide the Wastewater Supervisor with a detailed written report describing the cause of the discharge and measures taken by Navajo to prevent similar future occurrences. Such notification shall not

relieve Navajo of any expense, loss, damage, or other liability which may be incurred as a result of the discharge, including, without limitation, damage to person or property; nor shall such notification relieve Navajo of any fines, civil penalties, or other liability which otherwise may be imposed by this Agreement or by other applicable law; provided, however, that any occurrence caused by the City shall not be the obligation or responsibility of Navajo.

(3) Nothing herein shall preclude Navajo from conducting monitoring, or performing sampling and analysis of any waste stream discharged to the POTW, for its own purposes, provided that such sampling and analysis shall be also made available to the City upon request.

E. Quantity and Quality of Non-Domestic Wastewater Discharge

(1) Quantity:

(a) Discharge of Industrial Wastewater shall not exceed 21,600 gallons per day and discharge of Non-Domestic Wastewater shall not exceed 216,000 gallons per day, as measured at their point of connection to the City's infrastructure, for a total quantity that shall not exceed 237,600 gallons per day.

(b) The discharge rate of hydrostatic test water shall be determined by the City upon approval of the discharge.

(2) Quality: The quality of the Non-Domestic Wastewater or Industrial Wastewater delivered to the City shall be governed by the Discharge Limits as set forth in Attachment 1.

F. Rates and Fees

(1) Plant Investment Fee: Subject to the terms and conditions of this subsection, Navajo shall pay a Plant Investment Fee of Two Million One Hundred Eighty Thousand Four Hundred Eighty Two Dollars (\$2,180,482). Navajo shall make payment to the City as follows:

(a) within ninety (90) days of the Effective Date, One Million Two Hundred Thirty Six

Thousand Ninety Six Dollars (\$1,236,096); and (b) by that date for each of the following four (4) years thereafter, Two Hundred Thirty Six Thousand Ninety Six Dollars (\$236, 096). The City shall provide an invoice to Navajo for the annual Plant Investment Fee installment at least thirty (30) days prior to each annual due date.

(2) **Commodity Rate:** in addition to the Plant Investment Fee, Navajo shall pay a commodity rate of \$1.84 per thousand gallons for all Non-Domestic Wastewater and Industrial Wastewater discharged through the meters. The commodity charge shall not increase for the first five (5) years of this Agreement, and, thereafter, may increase annually by a percentage that is no greater than the percentage increase applicable to all other users of the POTW pursuant to City Ordinance.

G. General Provisions:

(1) **Relation to Ordinance:** The City and Navajo have entered into this Agreement pursuant to Section 7-3A-3.C.2.b of the City's Code, and agree that this Agreement implements and is consistent with the City's Ordinances, represents the entirety of the agreement between the Parties, and governs all of the rights and obligations between the Parties, relative to the discharge of Industrial Wastewater and Non-Domestic Wastewater to the POTW. If the Ordinances are amended or replaced, the Parties agree that this Agreement will be construed and implemented in a manner consistent with such Ordinances. If there is a conflict between this Agreement and such Ordinances, the terms and conditions of the Ordinances shall govern.

(2) **NPDES or NMED/GW Discharge Permit Violations:** If the City violates its National Pollution Discharge Elimination System ("NPDES") or its New Mexico Environment Department's Ground Water ("NMED/GW") discharge permits, and it can be shown that the City's violation was caused entirely or in part by the acts or omissions of Navajo whether

pursuant to this Agreement, or otherwise, and if the City is subsequently fined for any such violation, then, in that case, Navajo shall pay or promptly reimburse the City for that portion of the fine or penalty, and any other fees, costs, or expenses imposed, attributable to its action, or failure to act. These monies shall be separate from and additional to any civil liability to the City from Navajo arising from a breach of this Agreement.

(3) **Liens:** To the extent permitted by § 7-3A-9 of the City's Code, the City shall have the right to create and record a lien against Navajo's real and personal property for all unpaid wastewater charges or fees owed to the City.

(4) **Term:** The term of this Agreement shall be for ten (10) years from the Effective Date.

(5) **Remedies:** In the event of a material breach of this Agreement, the non-breaching party shall have all remedies as are available to it in law or in equity. Notwithstanding the foregoing, either party may, by giving written notice to the other, terminate this Agreement if the other party breaches any material provision of this Agreement and either the breach cannot be cured or, if the breach can be cured, it is not cured by the breaching party within ninety (90) days, or longer if necessary and the breaching party is diligently pursuing the cure, after the breaching party's receipt of written notice of such breach. Upon termination, neither party shall have any further rights or obligations to the other under this Agreement, save and except those rights and obligations that have accrued or that were not performed by a party prior to the date of termination. In the event of such termination, any obligation by Navajo to pay remaining installments of the Plant Investment Fee shall cease, and title to the infrastructure constructed by Navajo on Navajo's property, pursuant to the terms and conditions contained herein, shall vest in Navajo.

(6) **Time of Payment:** Whenever under the terms of this Agreement a payment is to be made by Navajo to the City, Navajo shall make such payment within thirty (30) days after such time the payment is due. If Navajo's payment becomes delinquent, delinquency charges at the rate of one and one-half percent (1 ½ %) per month of the unpaid balance shall additionally be due and payable to the City.

(7) **Assignment:** This Agreement, as well as any of Navajo's rights and obligations hereunder, may be assigned by Navajo in whole or in part with the consent of the City, which shall be obtained prior to execution of the assignment. Notwithstanding the foregoing, no such consent shall be required in the event that the Facility is conveyed in its entirety, or substantially in its entirety, to either a subsidiary or affiliate of Navajo or Navajo's ultimate parent, or to a third party, provided Navajo gives notice in writing of such conveyance to the City. The assignee shall further separately agree in writing prior to or contemporaneously with the execution of the assignment to assume all of Navajo's rights and obligations arising on or after the date of the assignment under this Agreement. Navajo's rights and obligations under this Agreement shall not be terminated by the effect of the assignment and both Navajo and the assignee shall be jointly and severally obligated to perform the terms of this Agreement for obligations arising on or after the date of the assignment, unless the Facility is conveyed in its entirety, or substantially in its entirety, to either a subsidiary or affiliate of Navajo or Navajo's ultimate parent, or to a third party, in which case Navajo shall be released from its obligations under this Agreement arising on or after the date of the assignment and the assignee shall be solely obligated to perform the terms of this Agreement.

(8) **Notices:** Whenever notice is required or permitted under this Agreement, the same shall be in writing and shall be given effect by hand delivery, by mailing to the party by

U.S. Certified Mail, return receipt requested, or by overnight delivery service, addressed to the party as follows:

For the City: City of Artesia, Attn: Infrastructure
P.O. Box 1310
Artesia, N.M. 88211-1310

With a copy to: Caraway, Tabor & Byers, LLP
Attn: John Caraway
P.O. Box 1718
Carlsbad, N.M. 88221

For Navajo: Navajo Refining Company, L.L.C.
Attn: Refinery Manager
501 East Main Street
Artesia, N.M. 88210

With a copy to: Navajo Refining Company, L.L.C.
Attn: General Counsel
2828 North Harwood, Suite 1300
Dallas, Texas 75201

(9) **Severability:** The provisions of this Agreement are severable. If a provision of this Agreement, or application of the provision to a given circumstance, is judged invalid, the application of the provision to other circumstances, and the remainder of this Agreement, shall not be affected.

(10) **Choice of Law:** This Agreement shall be governed by the laws of the State of New Mexico. Any legal action taken by either party under this Agreement shall be filed in the District Court of 5th Judicial District, County of Eddy, State of New Mexico, and the parties consent to the Jurisdiction and Venue of said Court.

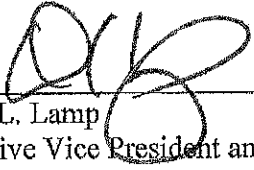
(11) **Modification:** This Agreement may be modified only by a writing signed by the party against whom such modification is sought to be enforced.

(12) **Entire Agreement:** This is the entire agreement between the parties. This Agreement supersedes and replaces all prior agreements between the Parties regarding Non-

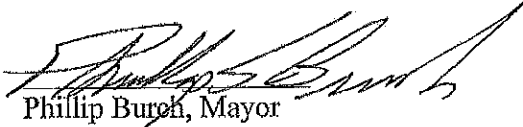
Domestic Wastewater or Industrial Wastewater disposal from the Facility, including, without limitation, the MOU, as amended, and the 1999 Agreement.

(13) **Authority:** Each party represents that (i) it has the full right and authority to enter into, execute, deliver and perform its obligations under this Agreement; (ii) the signator hereto is duly authorized to execute this Agreement; (iii) this Agreement constitutes a legal, valid and binding obligation enforceable against such party in accordance with its terms, subject to bankruptcy, insolvency, creditors' rights and general equitable principles, and (iv) at the time of execution, this Agreement does not violate any applicable existing state, local or federal law.

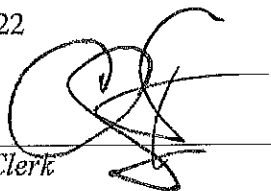
EXECUTED as of JUNE 25, 2013:



David L. Lamp
Executive Vice President and Chief Operating Officer
For Navajo Refining Company, L.L.C.
Artesia, NM 88210
(575) 748-4000



Phillip Burch, Mayor
For City of Artesia
Artesia, NM 88210
(575) 746-2122

Attest: 

City Clerk

**ATTACHMENT 1 TO
WASTEWATER SERVICE AGREEMENT
BETWEEN CITY OF ARTESIA, NEW MEXICO
AND NAVAJO REFINING COMPANY, L.L.C.**

NAVAJO REFINERY - INDUSTRIAL SEWER USE REQUIREMENTS

2.1 Prohibited Discharge Standards

A. General Prohibitions. No User shall introduce or cause to be introduced into the POTW any pollutant or wastewater resulting in Pass Through or Interference. These general prohibitions apply to all Users of the POTW whether or not they are subject to categorical Pretreatment Standards or any other National, State, or local Pretreatment Standards or Requirements.

B. Specific Prohibitions. No User shall introduce or cause to be introduced into the POTW the following pollutants, substances, or wastewater:

- (1) Pollutants which create a fire or explosive hazard in the POTW, including, but not limited to, waste streams with a closed-cup flashpoint of less than 140 degrees F (60 degrees C) using the test methods specified in 40 CFR § 261.21;
- (2) Wastewater having a pH less than 6.6 or more than 9.0, or otherwise causing corrosive structural damage to the POTW or equipment;
- (3) Cinders, sand, spent lime, stone or marble dust, metal, glass, straw, shavings, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastics, gas, tar asphalt residues, residues from refining or processing of fuel or lubricating oil, mud or glass grinding or polishing wastes or any other solid or viscous substances in amounts which will cause obstruction of the flow in the POTW resulting in interference;
- (4) Pollutants, including oxygen-demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration which, either singly or by interaction with other pollutants, will cause Interference with the POTW;
- (5) Wastewater having a temperature greater than 86 degrees F (30 degrees C), or which will inhibit biological activity in the treatment plant resulting in Interference, but in no case wastewater which causes the temperature at the introduction into the treatment plant to exceed 104 degrees F (40 degrees C);
- (6) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin, in amounts that will cause Interference or Pass Through;

- (7) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;
- (8) Trucked or hauled pollutants, except at discharge points designated by the City in accordance with Section 3.4 of this ordinance;
- (9) Noxious or malodorous liquids, gases, solids, or other wastewater which, either singly or by interaction with other wastes, are sufficient to create a public nuisance or a hazard to life, or to prevent entry into the sewers for maintenance or repair;
- (10) Wastewater imparting color which cannot be removed by the treatment process, such as, but not limited to, dye wastes and vegetable tanning solutions, which consequently imparts color to the treatment plant's effluent, thereby violating the COA's NPDES permit. Color (in combination with turbidity) shall not cause the treatment plant effluent to reduce the depth of the compensation point for photosynthetic activity by more than ten (10) percent from the seasonably established norm for aquatic life.
- (11) Wastewater containing any radioactive wastes or isotopes except in compliance with applicable State or Federal regulations;
- (12) Storm Water, surface water, ground water, artesian well water, roof runoff, subsurface drainage, swimming pool drainage, condensate, de-ionized water, Noncontact Cooling Water, and unpolluted wastewater, unless specifically authorized by the City;
- (13) Sludges, screenings, or other residues from the pretreatment of industrial wastes;
- (14) Medical Wastes, except as specifically authorized by the City in an individual wastewater discharge permit or a general permit;
- (15) Wastewater causing, alone or in conjunction with other sources, the treatment plant's effluent to fail toxicity test;
- (16) Detergents, surface-active agents, or other substances which might cause excessive foaming in the POTW;
- (17) Fats, oils, or greases of animal or vegetable origin in concentrations greater than 50 mg/l;
- (18) Any hazardous wastes as defined in 40 CFR Part 261;
- (19) Persistent pesticides and/or pesticides regulated by FIFRA;

(20) Any substance which will cause the POTW to violate its NPDES and/or other disposal system permits.

(21) Any wastewater, which in the opinion of the Infrastructure Director (ID) can cause harm either to the sewers, sewage treatment process, or equipment; have an adverse effect on the receiving stream; or can otherwise endanger life, limb, public property, or constitute a nuisance, unless allowed under special agreement by the City.

(22) The contents of any tank or other vessel owned or used by any person in the business of pumping sewage, effluent, septic tank waste or other wastewater unless said person has first obtained testing and approval as may be generally required by the City and paid all fees assessed for the privilege of said discharge.

(23) Persistent pesticides and/or pesticides regulated by the Federal Insecticide Fungicide Rodenticide Act (FIFRA).

C. Pollutants, substances, or wastewater prohibited by this Section shall not be processed or stored in such a manner that they could be discharged to the POTW.

D. Users subject to categorical Pretreatment Standards found at 40 CFR Chapter I, Subchapter N, Parts 405-471 must comply accordingly along with any applicable local limits. The categorical pretreatment standards as amended and promulgated by EPA pursuant to the Act and as found at 40 CFR Chapter I, Subchapter N, Parts 405-471, are hereby incorporated and shall be enforceable under this ordinance.

E. Dilution is prohibited as a substitute for treatment unless expressly authorized to do so by an applicable pretreatment standard or requirement; no industrial user shall ever increase the use of process water, or in any other way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a pretreatment standard or requirement. The City may impose mass limitations on industrial users which are using dilution to meet applicable pretreatment standards or requirements or in other cases where the imposition of mass limitations is appropriate.

2.2 Local Limits

The City is authorized to establish Local Limits pursuant to 40 CFR § 403.5(c.) The following pollutant limits are established to protect against Pass Through and Interference.

22.58	mg/l aluminum
100	mg/l ammonia
0.19	mg/l arsenic
5.0	mg/l barium
0.05	mg/l benzene

1.0	mg/l boron
0.5	mg/l BTEX
250	mg/l BOD ₅
0.01	mg/l cadmium
800	mg/l chlorides (nte)
4.1	mg/l chromium
5.3	mg/l copper
0.21	mg/l cyanide
8.25	mg/l fluoride
100	mg/l formaldehyde
0.1	mg/l lead
1.0	mg/l manganese
.0005	mg/l mercury
2.0	mg/l molybdenum
203	mg/l nitrogen (total)
2.0	mg/l nickel
2.0	mg/l phenolic compounds
5.0	mg/l phosphorous
0.024	mg/l selenium (Daily Maximum)
0.014	mg/l selenium (Monthly Average)**
0.1	mg/l silver
2300	mg/l TDS (Total Dissolved Solids)
250	mg/l total suspended solids
3.2	mg/l total toxic organic
100.0	mg/l TPH (Total Petroleum Hydrocarbon -EPA Method 413.1)
5.0	mg/l zinc
0.10	mg/l *TICH (Total Identifiable Chlorinated Hydrocarbons)

The above limits apply at the point where the wastewater is discharged to the POTW. All concentrations for metallic substances are for total metal unless indicated otherwise.

*The sum of the concentration of all quantifiable values equal to or greater than the detection limit for all chlorinated hydrocarbons identified by EPA Method 624.

**Navajo shall collect, have analyzed by appropriate methods and document a minimum of two (2) selenium tests per week and provide the City a weekly report and weekly test laboratory test results. The weekly report will also include the maximum daily selenium results for the rolling year, the average selenium results for the rolling thirty (30) day average, and the minimum of two (2) weekly tests on the total discharge of the non-domestic and industrial wastewater prior to entering the City's collection system. This requirement will be at Navajo's sole expense. The need for the testing/reporting described above will be evaluated after 6 months from commencement to determine if modifications are needed or if it can be discontinued.

Appendix 5
Navajo-Artesia
Sampling and Standard Operating Procedure (SOP)
Summaries

In-House Sampling and Analysis Standard Operating Procedure (SOP) Summaries

1. Artesia Refinery Laboratory – Hach MP-6 Meter for pH, TDS, and Conductivity

Instrument calibrations are performed before analysis and follow manufacturer's guidelines. Standards for each analysis must be within accuracy of standard ranges and accuracy of the instrument. Alternatively, when an instrument is control charted (i.e., qualified as fit for use), calibrations should fall within the upper and lower control limits. If the instrument is qualified as fit for use, it does not need to be re-qualified for 24 hours unless changes are made to the instrument or the tester suspects that the instrument has become unreliable. If the instrument does not qualify as fit for use, the relevant condition(s) must be corrected before testing samples.

Manufacturer's specifications are followed for each analysis to be performed with the meter. Briefly, sample cells are rinsed three times with the respective sample to be measured and then the meter cell is filled with the sample for each analysis to be performed. For conductivity, TDS, and pH, the respective meter button is pressed, and the observed value displayed is recorded. Instruments are cleaned and stored following manufacturer's specifications.

2. Artesia Refinery Laboratory - Hach Method 10205 (using Hach 6000 DR Meter) for Ammonia Nitrogen

Standards for analysis must be within accuracy of standard ranges and accuracy of the instrument. A 10 mg/L standard is used to verify this accuracy. If the instrument is qualified as fit for use, it does not need to be re-qualified for 24 hours unless changes are made to the instrument or the tester suspects that the instrument has become unreliable. If the instrument does not qualify as fit for use, the condition must be corrected before testing samples.

Manufacturer's specifications are followed for each analysis to be performed with the meter. Hach TNT plus 832 vials are used which have an analysis range between 2 and 47 mg/L. Briefly, 0.2 mL of sample are added to the test vial. A reagent lid is applied to the test vial, shaken and allowed to sit for 15 minutes. The vial is inserted into the meter and the bar code is automatically scanned and the vial is then analyzed. The observed value displayed is recorded. If a measurement is over 47 mg/L, a dilution factor using deionized water can be applied to the sample and the analysis is then rerun. The new observed value displayed is recorded and the dilution factor is applied to calculate the final value. Instruments are stored following manufacturer's specifications.

3. Artesia Refinery Laboratory - Benzene in Water by Static Headspace Gas Chromatography (GC) using Agilent 7890 & 6890GV

Samples are placed on ice before placing samples in glass vials for extraction. Sample vials are filled halfway to ensure that the sampling probe will not encounter the liquid phase during the sampling step. The cap is placed over the vial opening and then the crimper sealing tool is applied over the cap and vial. With slow steady pressure, the crimper is used to seal the vial. The seal is checked for integrity by

twisting the cap for movement. It should be difficult or impossible to turn the cap. This ensures that the vial is sealed properly so that the head space gases do not escape prematurely. Additionally, this verifies that the headspace sampler does not jam during septum puncture. Manufacturer's specifications of the machine and software are followed for each analysis to be performed. Once analysis is completed, the observed value displayed is recorded. Instruments are stored following manufacturer's specifications.

4. On-site Contractor Aqua Microbics – WWTP Sampling Events at Artesia (Walnut Filter Effluent, Dissolved Air Flotation, Tanks 801/836, API)

Samples bottles are inspected to ensure that they are clean and in good condition (i.e. no damage, cracks, or excessive fouling). Appropriate personal protective equipment (PPE) is required for the sample being collected. At a minimum, this includes all PPE required by SDS and/or site-specific policies for that sample source/location. The following steps are given to personnel to ensure proper field sampling:

- a) Place a 5-gallon bucket under sample point to catch any spillage.
- b) For sampling locations with a valve and tap, open the tap and allow it to run for at least one minute.
- c) **NEVER** leave an open sample point unattended for any reason.
- d) For samples where a dipper is used, stand in a stable position and maintain a good grip on the dipper when lowering it into sampled material. Never over-extend yourself or put yourself into awkward positions to get a sample.
- e) Place sample bottle under open, running sample tap. Collect sample into sample bottle, filling to appropriate fill level, then tightly replace cap.
- f) Close sample tap as applicable.
- g) If any quantity of material being sampled has spilled onto the ground it must be cleaned up immediately per spill response procedure.

The above process is repeated as necessary to collect all required samples. Analytical test tests are then run as required on all samples at the contractor's on-site laboratory in accordance with standard protocols for the respective meters and/or methods. Remaining samples and material collected in the above-referenced 5-gallon bucket are disposed of by emptying them into an approved drain to the WWTP via the process sewer system. In most cases, this is either the sewer box near the talon tanks or the lab sink.

For cleanup, all sample containers and PPE are triple rinsed except for Nitrile gloves which are disposed of into proper receptacles. Instruments are stored in accordance with manufacturer's specifications.

5. *On-site Contractor Austin – WWTP Sampling Events at Lovington (API Separator and Tank 1201D (Final Separator))*

NOTE: The following summary is based on discussions with Austin personnel.

Sampler obtains 4 sample containers (two glass 40 mL VOA vials and two plastic 125 mL bottle) from the Lovington Refinery Firehouse, and then obtains self-adhesive sample labels at the comfort station. Sampler proceeds to API Separator and dons nitrile gloves. Water is purged from the outlet pipe bleeder tap for approximately 30 seconds and is allowed to run and drain back into the API Separator. Sample is drawn for benzene at the outlet pipe bleeder tap from the API Separator effluent side discharging to Tank-1201C. For benzene sampling, the 40 mL VOA vial contains preservative and is filled in a manner to prevent air bubbles or headspace. For ammonia sampling, a 125-mL bottle is filled. After collection, the containers are labeled, the nitrile gloves are removed, and the sampler proceeds to the next sample location downstream from Tank-1201D (Final Separator). The sampler dons a clean set of nitrile gloves. Water is purged from the Final Separator effluent pipeline sample tap for approximately 30 seconds and is allowed to run and drain into a catch bucket, collected, and eventually disposed of via return to the wastewater treatment system. The 40 mL VOA vial (for benzene) and 125 mL plastic bottle (for ammonia) are used to collect the water samples from the Final Separator effluent pipeline at the refinery fenceline. The bottles are filled from a sample tap on the pipeline, in a manner preventing air bubbles and headspace from forming. Both containers are labeled and the nitrile gloves are removed. Along with the API Separator benzene and ammonia samples, the Final Separator (Tank 1201D) effluent benzene and ammonia samples are transferred and stored at the Refinery Firehouse in a refrigerator. The samples are held in the Lovington Firehouse refrigerator for maximum 7 days, then transported via courier every Wednesday on ice to the Artesia Refinery Lab for analysis.

6. *On-site Contractor ChemTreat – WWTP Sampling Events at Lovington (Tank 1201D (Final Separator Effluent) & CW Sampling Events at Artesia (Y-1, Y-2, Y-11))*

NOTE: The following summary is based on e-mail correspondence from ChemTreat personnel.

A ChemTreat representative (one of the two dedicated to Navajo Refining) samples the cooling tower or wastewater streams once per week. Sampler triple rinses sample bottles and fills sample containers. Either at the unit, or at contractor's onsite laboratory, the sample is analyzed in accordance with the methods described in the parameter tables. The analyte (*i.e.*, leftover sample) is returned to the process waste stream.