UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
RESOURCE CONSERVATION AND RECOVERY ACT

BASIC INFORMATION

Facility Name:
United Parcel Service – Commerce City

RCRA ID: COD981547771

Facility Location:
5020 Ivy Street
Commerce City, CO 80022

Facility Contact:
Charles Hawk
Facilities Engineer/Base Manager
chawk@ups.com
dmenv@ups.com

Notification Status:
Large Quantity Generator
Large Quantity Handler of Universal Waste

Date of Inspection: July 6, 2022
Arrival Time: 9:35 a.m.
Departure Time: 1:05 p.m.

Weather Conditions: All parts of the facility that were inspected were indoors.

Lead Inspector: Kristin McNeill, U.S. EPA RCRA Inspector

Inspection Attendees:
1. David Foster, Colorado Department of Public Health and Environment (CDPHE) RCRA Inspector
2. Charles Hawk, United Parcel Service (UPS) – Commerce City Facilities Engineer/Base Manager
3. Stephanie Casas, UPS – Commerce City Maintenance Supervisor
4. Jared Wells, UPS – Commerce City Maintenance Specialist

Purpose of Inspection: Compliance Evaluation Inspection

Applicable Regulations and Permit: 6 CCR 1007-3 Parts 260-279

Inspection Type: EPA led inspection with CDPHE accompanying
Announced Inspection per CDPHE's inspection notification requirement

Facility Type: 492110 - Couriers and Express Delivery Services

Company Ownership: United Parcel Service (UPS) – Commerce City is owned by United Parcel Service Inc.

Disclaimer

This report is a summary of observations and information gathered from the facility at the time of the inspection. The information provided does not constitute a final decision on compliance with RCRA regulations, nor is it meant to be a comprehensive summary of all activities and processes conducted at the facility.

REGULATORY STATUS

According to RCRAInfo, UPS – Commerce City (facility) is a large quantity generator (LQG) of hazardous waste and a large quantity handler of universal waste (LQHUW). During the inspection, Mr. Hawk confirmed that the facility was an LQG and a LQHUW. Based on my observations of waste generation and the amount of waste onsite, the facility appeared to be generating at least 2200 pounds of hazardous waste per month and was therefore a large quantity generator at the time of the inspection.

Previous to this inspection, the facility was inspected by EPA on September 21, 2018, resulting in several issues, including the length of time to make a waste determination, an open container of hazardous waste oil-based paint, hazardous waste characterizations for floor sumps, position descriptions, and training plans and records. These issues were addressed, and several new waste management processes were implemented.

DESCRIPTION OF INSPECTION

Opening Conference

We met Mr. Hawk and Ms. Casas at the security guard station where I presented my credentials and briefly explained the reason for the inspection. Mr. Hawk and Ms. Casas walked Mr. Foster and I to Mr. Hawk's office for an opening conference.

We were not denied access to the facility and were allowed to inspect all areas that we selected for inspection. Mr. Hawk and Ms. Casas accompanied us throughout the inspection. The following information was obtained verbally during the inspection from Mr. Hawk and Ms. Casas unless otherwise noted.

I provided a CBI warning to the facility representatives; however, no CBI was discussed during the inspection.

General Facility Information

During the opening conference of the inspection, Mr. Hawk and Ms. Casas explained the facility's hazardous waste generation and storage, and provided general information about the facility.

Mr. Hawk explained that UPS – Commerce City is a UPS hub where packages are sorted to and from semi-trailers and local delivery trucks using a large system of conveyors. He stated that the facility currently employs approximately 2500 employees. He also said that the facility operates 24/7 over four shifts per day, with down time in the package sort area from 9:00 a.m. until 1:00 p.m. The facility is comprised of a warehouse of approximately 800,000 square feet and has been operating at this location for approximately 50 years.

Site Hazardous Waste Information

Mr. Hawk said that the majority of the hazardous waste generated at the facility comes from damaged packages. He described their process to manage this waste stream. He said if a package is damaged in the sort process, employees do not touch it, but call one of the Designated Responders. He explained that there are at least two Designated Responders per shift and that they wear PPE while using spill kits to clean up the material. He said that the DR's put the material on carts to move it to the damaged materials processing area, where an attempt is made to identify the material. Mr. Hawk explained that if the

product listing indicates that the material is regulated or if it is unknown, it is placed into a green bag, which is put into a tray and moved to a shelf in a semi-trailer for the Damaged Material Program (DMP), located in the facility's 90-day area. Mr. Hawk said that they contract with a company called Avantor for waste analyses. Generally, each analysis is completed in 48 hours but if it takes longer, UPS will check with Avantor every 48 hours. He said that while they are waiting for the waste analysis to be performed, the waste is labeled as "hazardous waste pending analysis" and "may be ignitable/corrosive, reactive and/or toxic" (photo 1). He explained that each green bag is also labeled with a temporary ID number that reflects the date that the bag was placed in the holding area.

Mr. Hawk explained that if the waste is determined to be hazardous, then the green bag holding the waste is placed into a drum and is labeled with a permanent ID number. He said that Veolia picks up their hazardous waste on the third Thursday of every month.

Mr. Hawk explained that there are three automotive maintenance areas, two for the brown UPS delivery trucks (the East and West Automotive Shops) and one for semi-trucks (the Tractor Shop, open 24 hours). He explained that they use some touch-up paint, but do not have a paint booth. Mr. Hawk said that they do general vehicle maintenance, including battery and oil changes and work on tires, brakes, and transmissions. He said that each shop has a used oil tank and that oil filters are drained for 24 hours, crushed, and recycled as scrap metal. He also said that lead-acid batteries are sent for core charge and recycling to North America Battery Systems (NABS). According to Mr. Hawk, shop rags and uniforms are laundered through Aramark.

Mr. Hawk explained that there are not many satellite accumulation areas (SAAs) at the facility, only a few that are used to accumulate paint waste.

Mr. Hawk explained that universal waste lamps go to Lamp Tracker and universal waste batteries go to Call to Recycle. He said that empty aerosols are sent for scrap and non-empty aerosols are managed by the DMP. According to Mr. Hawk, any biohazards are picked up by Stericycle.

TOUR INFORMATION

Areas of the facility toured

Mr. Hawk and Ms. Casas led us on a tour of the facility. We looked at the facility's processes, including hazardous waste management practices, generation points, and accumulation areas. We also looked for wastes that facility representatives had not yet identified or designated as hazardous. Specifically, we inspected the following areas of the facility:

- Damaged Material Program (DMP) processing area
    - Six 55-gallon SAA drums: two for paint waste, two for bleach debris, one for hand sanitizer, and one for flammable liquids
- 90-day Hazardous Waste Accumulation Area
    - Waste pending analysis trailer
        - 30 green bags of waste pending analysis in trays on shelves (photos 1 & 2)
        - Five 55-gallon drums of hazardous waste (photo 3)
        - Ten 55-gallon drums of non-hazardous waste
        - One 55-gallon drum of universal waste aerosol cans
        - One open tray of aerosol cans

    - Active drum storage trailer
        - Ten 55-gallon drums of hazardous waste
        - Universal waste batteries container
        - One 55-gallon SAA drum for oil-based paint waste
        - One 55-gallon SAA drum for water-based paint waste
    - Outdoor drum storage/"drum pickup area"
        - 23 55-gallon drums of hazardous waste
        - Five 55-gallon drums of non-hazardous waste
        - Three 55-gallon drums of universal waste aerosol cans
        - Three 55-gallon drums labeled as "pending classification"
- East Automotive Maintenance Shop
    - 1000-gallon used oil tank
    - Non-hazardous parts washer (Zep Dyna 143°F)
    - Floor drains – pumped out once per week
    - Non-hazardous aqueous parts washer – serviced by Crystal Clean
    - Non-chlorinated brake cleaner (Zep KwikSolv)
- West Automotive Maintenance Shop
    - Non-hazardous aqueous parts washer – serviced by Crystal Clean
    - Used oil tank
    - Oil-water separator/sand trap for floor drains
- Tractor Shop
    - Non-hazardous aqueous parts washer – serviced by Crystal Clean
    - Used oil tank

Only those areas in which we observed potential compliance concerns or noted pertinent activities are further discussed below.

Observations

In the DMP processing area, I observed six 55-gallon SAA drums: two for paint waste, two for bleach debris, one for hand sanitizer, and one for flammable liquids. These six SAA containers were closed and labeled as hazardous waste. Five of them (all except the flammable liquids container) were not labeled with an indication of the hazard. In addition, two of the 55-gallon drums contained the same "paint waste" waste stream and one of the drums was full. Therefore, over 55 gallons of a given waste stream had been accumulated in a satellite area.

In the waste pending analysis trailer, there was a 55-gallon drum containing universal waste aerosol cans. On top of the drum, I observed an open tray holding at least 14 additional aerosol cans (photo 4). This tray was not labeled as universal waste and it was not closed.

In the active drum storage trailer, I observed two hazardous waste SAA 55-gallon drums for oil-based paint waste and water-based paint waste. These two SAA containers were closed and labeled as hazardous waste, but were not labeled with an indication of the hazard.

In the outdoor drum storage, I observed three drums labeled as "pending classification" (photo 5). These drums were labeled with temporary ID numbers reflecting the accumulation start dates (5/31/22, 6/26/22, and 6/27/22), but they were not labeled with the words "hazardous waste" or an indication of the hazard while they were pending analysis.

Records Review

I reviewed the following documents at the facility:

- Weekly inspection logs (January 2021 – date of inspection)
- Hazardous waste manifests with land disposal notifications (July 2020 – date of inspection)
- Contingency plan (hard copy last updated 5/23/2008)
- Hazardous waste training records for the 22 designated responders and manifest training records for nine employees

At the time of the inspection, copies of the signed return manifests for at least 11 shipments between May 2021 and May 2022 were not available:

Manifest Number	Shipment Date
001803944 VES	5/13/21
002002088 VES	6/10/21
002004027 VES	8/12/21
002004218 VES	9/9/21
002004458 VES	10/14/21
002037569 VES	11/11/21
002037785 VES	12/9/21
001876254 VES	1/13/22
002030122 VES	2/10/22
002029555 VES	4/14/22
002029708 VES	5/17/22

CLOSING CONFERENCE

We held a closing conference with Mr. Hawk, Ms. Casas, and Mr. Wells, in which I summarized the concerns that Mr. Foster and I had noted during the walk-through inspection and records review.

Areas of concern discussed in the closing conference:

1. The tray holding approximately 14 universal waste aerosol cans in the waste pending analysis trailer was not closed and was not labeled.
2. Three 55-gallon drums in the outdoor drum storage area were not labeled as “hazardous waste” or with an indication of the hazard.
3. Two SAA containers in the active drum storage trailer and five SAA containers in the DMP processing area were not labeled with hazard indications.
4. The SAA in the DMP processing area had more than 55 gallons of one waste stream.
5. The hard copy of the contingency plan had not been updated since 2008.
6. Return manifests for at least 11 shipments between May 2021 and May 2022 were not available for inspection.

I also requested job descriptions for the designated responders to be sent as follow-up to the inspection. Mr. Hawk said that he thought the contingency plan had been updated more recently and that the manifests were available through RCRAInfo, so offered to send those documents as well.

Mr. Foster also requested that they update the facility's information in RCRAinfo to reflect the current facility contact.

INSPECTION FOLLOW-UP

Mr. Hawk, Facility Engineer, sent an email on August 23, 2022, detailing corrective actions that UPS-Commerce City had taken in response to concerns identified during the inspection. According to these submittals, most of the areas of concern had been corrected, including:

- A photo showing that the aerosol cans from the open tray had been placed into the universal waste aerosol cans container.
- A photo showing that the three 55-gallon drums in the outdoor drum storage area had been labeled with the facility's tags indicating that they were "hazardous waste pending analysis" and "may be ignitable/corrosive, reactive and/or toxic."
- A photo showing that the SAA containers had been labeled with DOT labels indicating the hazard.
- The contingency plan was submitted, showing that it had been updated in April 2022 and included a quick reference guide.
- Return manifests for the shipments between May 2021 and July 2022 were submitted.
- The job description for the designated responders was submitted.

The submittals were reviewed, and pertinent documents are attached in Appendix B. The remaining area of concern is that greater than 55 gallons of the "paint waste" waste stream had been accumulated in the DMP processing area.

SIGNATURES

McNeill, Kristin Digitally signed by McNeill, Kristin
Date: 2023.02.09 09:51:51 -07'00'

Kristin McNeill, Lead RCRA Inspector

Pearson, Janice Digitally signed by Pearson, Janice
Date: 2023.02.09 08:42:48 -07'00'

Janice A. Pearson, Manager
RCRA & OPA Enforcement Branch
Enforcement and Compliance Assurance Division

APPENDICES

Appendix A: Photo log
Appendix B: Email received from Mr. Hawk, Facility Engineer, on August 23, 2022

APPENDIX A: PHOTO LOG

The photos are original and have not been modified in any way. All photos were taken by Kristin McNeill on July 6, 2022, using a Nikon Coolpix A900 camera.

Photo 1 (DSCN0048.JPG): Waste pending analysis tag

Photo 2 (DSCN0049.JPG): Green bags in trays holding waste pending analysis

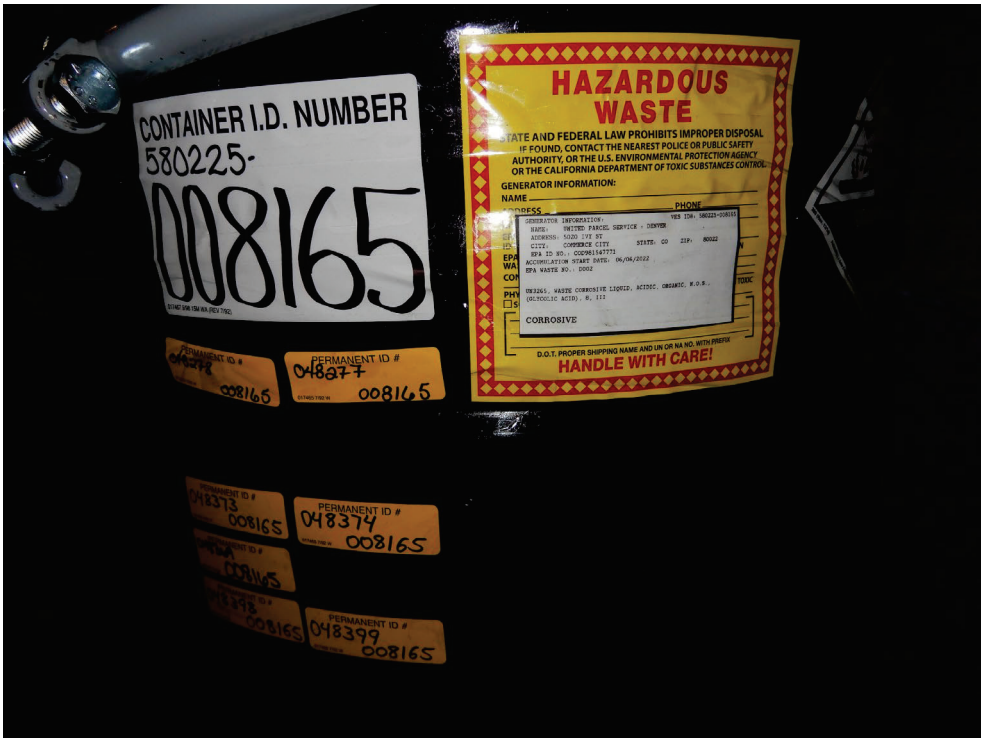

Photo 3 (DSCN0050.JPG): Example of hazardous waste labeling after waste analysis is complete

Photo 4 (DSCN0051.JPG): Universal waste aerosol cans in open and unlabeled tray

Photo 5 (DSCN0052.JPG): Drums labeled “pending classification” in the outdoor drum storage area

APPENDIX B:

Email and attachments received from Mr. Hawk,
Facility Engineer

August 23, 2022

United Parcel Service – Commerce City (COD981547771)

5020 Ivy Street, Commerce City CO

July 6, 2022

From:	chawk@ups.com
To:	McNeill, Kristin
Cc:	david.w.foster@state.co.us
Subject:	UPS Commerce City visit corrections
Date:	Tuesday, August 23, 2022 9:52:04 AM
Attachments:	CODEN.zip Hazmat Manifest May "21 to July "22.pdf Designated Responder JBA.pdf EPA visit pics.docx

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Hello Kristin,

Please find corrections made during your and David Foster's visit.

1. The zip file is the updated contingency plan and quick reference guide.
2. EPA visit pics are pics of the corrected drum issues. Explanation within doc.
3. Hazmat Manifest are the copies with the signature for (treatment, disposal and recycling)
4. Designated Responder JBA.

If anything else further is needed, please don't hesitate to ask.

Sincerely,

Charles Hawk
Facility Engineer

Drum that had aerosol cans sitting on top, was put inside the drum.

Awaiting analysis tags put on drums

DOT label put on satellite accumulation drums.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region8

Hilcorp Energy Company (formerly ConocoPhillips Company)[1]
Ute Compressor Station
Full Compliance Evaluation (FCE)
On-Site Clean Air Act Evaluation

Inspection Date: June 29, 2022

Date of Inspection Report: See date of Manager Signature

EPA Representatives:
Katelyn Bergl
Youn Joo Kim
Colin LeCortz
Alex North

Tribal Representatives:
David Heermance, Southern Ute Indian Tribe
Andrew Switzer, Southern Ute Indian Tribe
Meredith Breeden, Southern Ute Indian Tribe

Company Representatives:
Mitch Killough, Environmental Specialist, Hilcorp
Calvin Journey, Mechanic, Hilcorp
Jake Work, Compression Lead, Hilcorp
Gary Horst, Emission Specialist, Hilcorp
Freddy Proctor, Foreman, Hilcorp

Inspection Report Prepared By: Katelyn Bergl

Inspection Report Reviewed By: Scott Patefield, Manager
Enforcement and Compliance Assurance Division,
Air and Toxics Enforcement Branch

SCOTT PATEFIELD Digitally signed by SCOTT PATEFIELD
Date: 2022.09.21 13:26:57 -06'00'

Applicable Rules:
40 C.F.R. Part 63, Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities (MACT ZZZZ) (area source) (Engine #2, E002)

40 C.F.R. Part 60—Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015 (compressors)

Tribal minor new source review (# SMNSR-SU-000054-2019.003)

40 C.F.R. Part 60, Subpart JJJJ—Standards of Performance for

Stationary Spark Ignition Internal Combustion Engines (NSPS JJJJ) (Engine #3, E001)

Clean Air Act (CAA) Permit: SMNSR-SU-000054-2019.003, effective October 8, 2020 (Administrative Revision)

CAA Permit and Compliance History

1. February 4, 2011, ConocoPhillips Company (ConocoPhillips) submitted a self-disclosure of certain violations of 40 C.F.R. part 71. Consent Agreement, Docket No. CAA-08-2011-0032 was lodged on September 30. The terms of the Consent Agreement were to be incorporated into a permit where they would become applicable requirements that live on past termination of the Consent Agreement.
2. August 28, 2012, application from ConocoPhillips requesting a synthetic minor permit for the Ute Compressor Station. September 15, 2014, SMNSR-SU-000054-2012.001 first synthetic minor permit issued to ConocoPhillips for the Ute Compressor Station.
3. December 17, 2014, EPA informed ConocoPhillips that the Ute Compressor Station required a Title V permit because the dehydrator on site was subject to the major source requirements of MACT HH. November 4, 2015, Title V Permit #V-SUIT-0056-2015.00 was issued by the Southern Ute Indian Tribe (SUIT) in accordance with the Title V Operating Permit Program at 40 CFR part 71.
4. October 5, 2016, application from ConocoPhillips requested an administrative revision to the previously issued Permit# SMNSR-SU-000054-2012.001 to reinstate the permit and incorporate requirements from a September 12, 2016, Settlement Agreement and Stipulated Final Compliance Order, Enforcement, Case ID: 2016-05, with the SUIT Environmental Programs Division, Air Quality Program (Settlement Agreement). As a requirement of the settlement agreement, ConocoPhillips decommissioned the on-site dehydrator and submitted a Dehydration Decommissioning Report to SUIT on September 28, 2016. March 21, 2017, SMNSR-SU-000054-2016.002 synthetic minor permit issued to ConocoPhillips for the Ute Compressor Station.
5. October 8, 2020, SMNSR-SU-000054-2019.003 synthetic minor permit issued to Hilcorp Energy for the Ute Compressor Station to reflect Hilcorp's purchase of the facility.

I. General Source Information

Parent Company Name:	Hilcorp Energy Company
Corporate Office Location:	382 Road 3100, Aztec, NM 87410
Facility Name:	Ute Compressor Station
Facility Location	Latitude 37.0173N, Longitude -108.0201W
EPA Region:	8
County, State:	La Plata County, Colorado
Tribe & Reservation:	Southern Ute Indian Tribe, Southern Ute Indian Reservation
Responsible Official:	Mitch Killough
SIC Code:	1311, Crude Petroleum and Natural Gas
ICIS Air ID:	SU00000008067U0047
Other Clean Air Act Permits:	None

[1] This facility was formerly owned and operated by ConocoPhillips but as of August 1, 2017 was purchased by Hilcorp.

II. Summary of Enforcement Actions

No Federal enforcement in the past five (5) years. However, the permit incorporates an 8/29/12 Federal Compliance Agreement and Final Order (CAFO) between the EPA and ConocoPhillips, Docket No.: CAA-08-2011-0032.

Additionally, the permit incorporates requirements from a 9/12/16 Settlement Agreement and Stipulated Final Compliance Order, Enforcement, Case ID: 2016-05, with the Southern Ute Indian Tribe Environmental Programs Division, Air Quality Program (Settlement Agreement). The Settlement Agreement was established to bring ConocoPhillips into compliance with the Reservation Air Code (RAC) after it was discovered that there were RAC violations during an on-site inspection and records review on 5/10/16. The Settlement Agreement specifically required monthly auditory, visual and olfactory (AVO) monitoring of the condensate storage tanks operating at the facility. The Settlement Agreement required ConocoPhillips to apply to the EPA for a revision of Synthentic Minor New Source Review (SMNSR) Permit# SMNSR-SU- 000054-2012.001 to incorporate the stipulated requirements.

III. Description of Facility

The Ute Compressor Station (Ute) compresses natural gas. The natural gas comes from wells located in the vicinity of the Florida River producing natural gas from the Fruitland Coal Formation. Field gas is gathered and transported to the facility via pipelines for liquid separation and natural gas compression. The inlet fluid flows through a two-phase inlet separator where natural gas and liquids are separated. The liquids flow to two 300-barrel (bbl) above ground condensate storage tanks where oil and free water separate out. The water is transferred to a 120-bbl pit tank, where it is stored until it is hauled away via tank truck to a commercial facility for proper disposal. The oil is sold as product and shipped off-site via tank truck. The gas is compressed then transported off-site via pipeline. Liquids that drop out during compression are routed to the two condensate storage tanks.

The facility currently operates one 4-stroke, lean burn (4SLB) Waukesha L5790GL, rated at 1,215 hp (Emission Unit E001), one 4SLB Waukesha L7042 GL, rated at 1,478 hp (Emission Unit E002), and two 300-bbl condensate tanks (TK-5080, TK-5081). Other emission unit operated at the location include combustion turbines, heated separators, truck loading of condensate, fugitive emissions, and miscellaneous storage tanks. Table 1 provides additional details on Emission Units and Emission Generating activities at Ute.

In addition to the SMNSR permit, the following regulations apply to the facility:

- Engine E001 was modified in 2011 and is subject to NSPS JJJJ, and E002 was constructed prior to July 1, 2007 and is not subject to Subpart JJJJ. [Note - Engine E001 was replaced with a pre-NSPS JJJJ engine in 2019, at which point NSPS Subpart JJJJ no longer applied.]
- Engine E002 was manufactured in 10/01 and must meet the area source requirements in MACT ZZZZ. Engine E001 was modified (reconstructed) in 2011 and meets the requirements of MACT ZZZZ by meeting NSPS Subpart JJJJ.

Note that on 10/15/12 ConocoPhillips sent in an initial notification indicating that a reciprocating compressor, with serial number F17693, installed on 9/15/11 was subject to NSPS Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced After August 23, 2011. In a letter dated 12/19/13, ConocoPhillips indicated that after further review they found that the initial construction date of the compressor was July 20, 2005 and, therefore, it is not an affected facility under Subpart

OOOO.

In a September 2016 settlement agreement between the SUIT and ConocoPhillips, ConocoPhillips agreed to permanently decommission and physically disconnect from the process, glycol dehydration emission unit DEHY-1 and associated condensate tank emission unit TK-8094A. In an April 21, 2017 letter from the SUIT to ConocoPhillips, SUIT indicated that since the dehydration system from the Ute Compressor Station had been decommissioned, the source is no longer major source for HAPs and the SUIT Title V operating permit was terminated.

Table 1: Emission Units and Emission Generating Activities

Unit ID	Description	Control Equipment
E001 (Engine #3)	Natural Gas Fired Waukesha 4SLB Engine Reciprocating internal combustion engine (RICE) Model No. L 5790 GL - 1215 hp* Serial Number: C-13394/1 Manufacture Date: Prior to 07/01/07 (12/2000) Install Date: 05/23/2007 Modified: 2011 <u>Like-Kind replacements:</u> 12/23/2011 rebuild 6/6/2019, S/N 240747 rebuild w/ C-13394/1	Oxidation Catalyst
E002 (Engine #1)	Natural Gas Fired Waukesha 4SLB Engine Reciprocating internal combustion engine (RICE) Model No. L 7042 GL - 1478 hp* Serial Number: C-13014/1 Manufacture Date: Prior to 10/31/01 (04/2000) Install Date: 01/12/2005 <u>Like-Kind replacements:</u> 04/12/2013 rebuild, C-13014 replaced C-13404 09/28/2018, rebuild, C-13405 replaced C-13014	Miratech Oxidation Catalyst
TK-1, TK-2	2– 300 bbl* condensate tanks	
E00	Heaters: 1 – 0.014MMbtu/hr* Dehydrator Reboiler 1 – 0.014MMbtu/hr Auxiliary Heater 1 – 0.012MMbtu/hr Auxiliary Heater	None

* hp = horsepower; bbl = barrel; MMscfd = million standard cubic feet per day; bbl = barrel; kW = kilowatt

Table 2: Insignificant Emission units

Description	Observations
2 - 4,512-gallon oil tanks (UOT-1, OT01)	
1 - 3,454-gallon coolant storage tank (CT-1)	
1 – 1,130-gall triethylene glycol storage tank (GT-1)	

1 – 3,454-gallon methanol tank (MT-1)	
2 – 250-gallon oil tanks (OT-2, OT-3)	
1 - 250-gallon antifreeze tank (AT-1)	
1 – 5,040-gallon below-grade pit sump liquids tank (BGT-1)	
1 – 5,040-gallon below-grade condenser liquids tank (BGT-2)	
1 – 30 kW Turbine (T-1)	*Not operating – backup to 65 kW Turbine Serial # 002987; Date of manufacture 3/2/01*
1 – 65 kW turbine (T-2)	*Operating, Serial # 004919, model 65RHD3BU00, Date of manufacture 9/16/08*
1 - Fugitive Emissions	
1 - Truck Loading of Condensate	

Table 3: Potential-to-Emit with Legally and Practically Enforceable Controls (tons per year)

Unit ID	NOx*	CO*	VOC*	PM*	SO_2*	CH_2O*	Total HAPs*
E001	32.73	43.64	10.91	0.36	0.54	3.16	3.68
E002	23.89	11.95	13.27	0.43	0.65	0.96	1.57
TK-5080	-	-	6.90	-	-	-	0.49
TK-5081	-	-	6.90	-	-	-	0.49
IEUs	0.27	1.61	2.11	0.05	0.79	-	-
Total	56.89	57.20	40.10	0.83	1.98	4.12	6.23

*NOX = nitrogen oxide; CO = carbon monoxide; VOC = volatile organic compound; PM = particulate matter; SO_2 = sulfur dioxide; CH_2O = formaldehyde; HAP = hazardous air pollutant.

IV. General Inspection Observations and Commentary:

On June 29, 2022, EPA representative Katelyn Bergl met with Mitch Killough of Hilcorp to conduct a Clean Air Act inspection of Hilcorp's Ute Compressor Station (Ute CS). Hilcorp representatives were notified of EPA's inspection of the facility prior to the inspection date. Ms. Bergl was accompanied by Youn Joo Kim, Colin Lecortz, and Alex North of the U.S. EPA as well as David Heermance, Andrew Switzer and Meredith Breeden of the Southern Ute Indian Tribe (Inspectors). Mr. Killough was accompanied by the Hilcorp company representatives listed on Page 1 of this report. Inspectors travelled together to Ute and were met on-site by Mr. Killough and his associates. An offsite records review was conducted following the inspection.

V. Opening Meeting:

Inspectors arrived at Ute at 12:22 pm mdt. Ms. Bergl conducted an opening meeting during which the following items were addressed:

- Presented EPA Inspector Credentials to Hilcorp personnel
- Discussed site safety
- Discussed purpose and objectives of the inspection
- Discussed EPA's intention to collect information including photographs and videos
- Discussed EPA's CBI policy

- Indicated Inspectors would like to begin a walk-through of the facility to inspect the equipment.

VI. Walk Through Inspection Observations:

Hilcorp staff walked Inspectors through the facility, including the compressor station inlet, separation process, compression process, and plant outlet. Ute is supplied by 81 surrounding wells, 80 of which are conventional gas and one of which is coal bed methane. Gas leaving the facility typically discharges to the Enterprise Products pipeline which ultimately feeds to the Chaco natural gas processing plant. Ute processes roughly 6 thousand cubic feet (MCF) per day of conventional gas using two engines. Both engines were operating at the time of the inspection. Ute produces approximately 3-bbl of produced water per day.

EPA noted the onsite engine operating conditions as shown in Table 4.

Table 4: Engine operating conditions, 6/29/22

Engine ID	Engine Serial Number	Catalyst Pressure Drop (inches of water)	Inlet Catalyst Temperature (°F)	Engine RPM	Engine Hours
Engine #1 (E002)	C-13405/1	1.8	633	1200	8784
Engine #3 (E001)	C-13394/1	7.2	522	1200	26347

Additionally, during previous EPA inspections, EPA noted the following information:

- The turbines supply power to the plant and run on plant fuel gas;
- They continuously monitor catalyst inlet temperature and catalyst pressure differential but record data every 15 minutes;
- They use No-bleed or Low-bleed pneumatics;
- The engine rebuild schedule is about every 48,000 hours;
- They own an extra “swing” engine that is the same size engine as Engine #1 so that that they can easily replace an engine that needs a rebuild with the swing engine;
- To rebuild Engine #3 they need to remove the engine and wait for the rebuild;
- All engines have air fuel ratio controller (AFRC);

The images below were taken during 2018 EPA CAA inspection conducted by EPA’s Ms. Laurie Ostrand. The images reflect current conditions at Ute and are therefore included in this report.

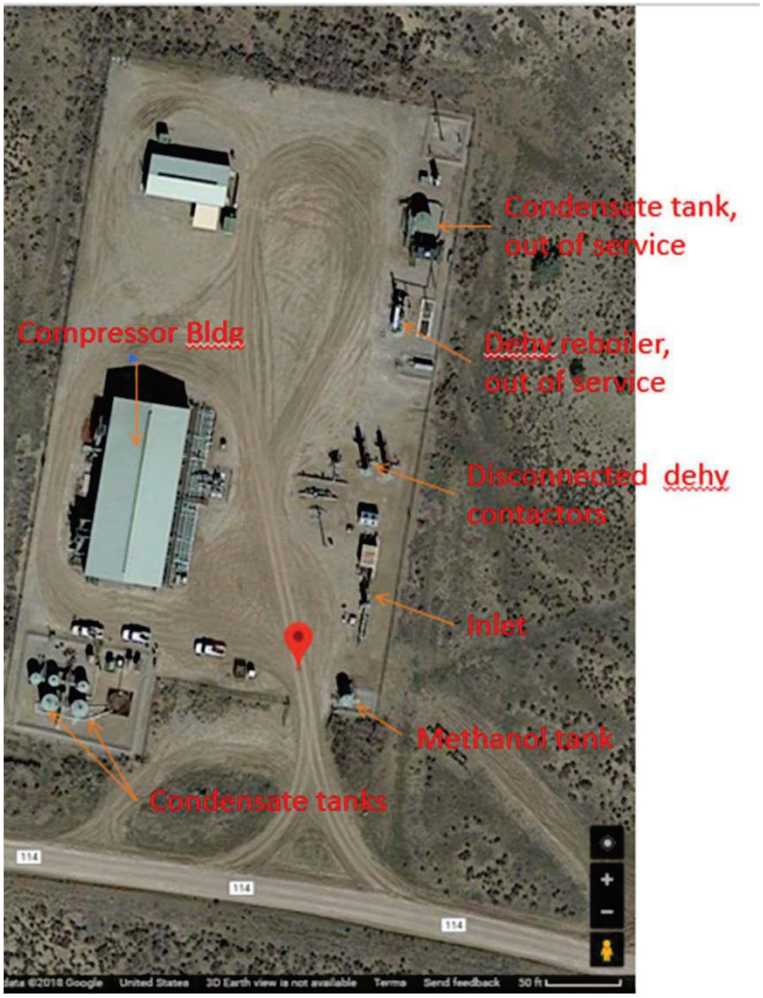
Figure 1. Aerial view of Ute from Google Maps.	
Figure 2. Ute showing the blinded off line of gas to the dehydrator. RIMG0021.jpg	

Figure 3: Ute dehydrator reboiler and tank no longer connected. RIMG0022.jpg	
Image 4: Ute backside of engines, catalyst part of muffler, Engine #3 closest and Engine #1 farthest away. RIMG0023.jpg	

Image 5: Ute tanks. Two larger tanks are condensate in back, tank front right is used oil, middle tank is new oil and tank on left is antifreeze. RIMG0024.jpg	
Image #6: Ute CS, Inlet on left on methanol tank on right. RIMG0025.jpg	

Image #7. Ute compressor building. RIMG0026.jpg	
Image #8: Ute Inlet on right and two dehydrator contactors (not operating). RIMG0027.jpg	

VIII. Permit Requirements – CAA SMNSR Permit # SMNSR-SU-000054-2019.003 (Effective 10/8/2020):

Note that with respect to this full compliance evaluation, the EPA is generally reviewing data and information from roughly 8/1/17 to 6/30/22.

I. Conditional Permit to Construct

C. Requirements for 1,478 Horsepower Engine

1. Construction and Operational Limits

The Permittee shall install and operate emission controls as specified in this permit on one (1) reciprocating internal combustion engine meeting the following specifications:

(a) Operated as a 4-stroke lean-burn;
(b) Fired with natural gas; and
(c) Limited to a maximum site rating of 1,478 hp.

Observations: *Hilcorp's database indicates that both engines are 4SLB Waukesha engines. E001 is a model L5790GL with a 1215 hp rating. E002 is a model L7042GL with a 1478 hp rating. The permit application indicates that the 1478 hp engine is altitude derated to 1375 hp. Hilcorp staff confirmed E002 is fired on natural gas.*

2. Emission Limits

(a) Emissions from the engine shall not exceed the following:

(i) NO_x: 5.5 pounds per hour (lb/hr);
(ii) CO: 2.7 lb/hr; and
(iii) CH_2O: 0.22 lb/hr.

(b) Emission limits shall apply at all times, unless otherwise specified in this permit.

Observations: *See Table 7 below showing annual stack test results and Table 10 showing quarterly monitoring results.*

3. Control and Operational Requirements

(a) The Permittee shall ensure that the engine is equipped with a catalytic control system capable of reducing the uncontrolled emissions of CO and CH_2O to meet the emission limits specified in this permit.

Observations: *During previous EPA inspections, Hilcorp staff identified where the catalyst was located on the engine stack., i.e., the catalyst is integrated into the muffler. See Image #4. Information provided by Mr. Killough in a 9/1/22 email further indicated that the engine is equipped with a Miratech ZCS-30X31-12-HSG catalyst. The engine catalyst was replaced on 2/10/20 and 8/16/21*

(b) The Permittee shall install, operate, and maintain a temperature sensing device (i.e., thermocouple or resistance temperature detectors) before the catalytic control system on the engine in order to continuously monitor the exhaust temperature at the inlet of the catalyst bed. The temperature sensing device shall be calibrated and operated by the Permittee according to manufacturer and/or vendor specifications or specifications developed by the Permittee or vendor.

Observations: *During the inspection, Ms. Bergl observed the real-time pre-catalyst inlet temperature being monitored on each engine.*

(c) Except during startups, which shall not to exceed 30 minutes, the engine exhaust temperature of the engine, at the inlet to the catalyst bed, shall be maintained at all times the engine operates with an inlet temperature of at least 450 °F and no more than 1,350 °F.

Observations: *No start-ups were observed during the inspection. The engine exhaust temperature at the inlet to the catalyst bed was observed during the inspection to be 522 °F on Engine E001 and 633 °F on Engine E002. Complete continuous monitoring temperature measurement data recorded pursuant to permit have not been provided at this time.*

(d) During operation, the pressure drop across the catalyst bed on the engine shall be maintained to within ±2 inches of water from the baseline pressure drop measured during the most recent performance test. The baseline pressure drop for the catalyst bed shall be determined at 100% ± 10% of the engine load measured during the most recent performance test.

Observations: *During the inspection, Ms. Bergl observed the real-time pressure drop monitored across each engine catalyst.* ***Engine E002 was operating outside of the pressure drop requirements of C.3(d) during the inspection.*** *The pressure drop across the catalyst bed on Engine E002 was observed to be 7.2" H_2O at the time of the inspection; The baseline pressure drop measured during the most recent performance test on June 28, 2022 was 1.8" H_2O. In a follow-up email from Mr. Killough on 9/1/22, Mr. Killough provided the following explanation regarding the deviation: "It should be noted that during the EPA inspections in June 2022, the DP readings on Compressor Skid No. 1 was suspected of high DP readings. Hilcorp personnel immediately inspected the catalyst system thouroghly and replaced the temperature probe (and transmitter) and the new housing was replaced on top of the cooling tower." See information below regarding pressure drop readings provided following the inspection.*

(e) The Permittee shall only fire the engine with natural gas. The natural gas shall be pipeline-quality in all respects except that the carbon dioxide (CO_2) concentration in the gas is not required to be within pipeline-quality.

Observations: *In an email dated 6/25/18, Ms. Jennifer Deal indicated that Hilcorp performs annual gas analysis to demonstrate that the fuel used for engines is pipeline quality natural gas. In an email dated 9/1/22, Mr. Killough provided fuel composition analyses conducted annually at Ute since 2015.*

(f) The Permittee shall follow, for the engine and its respective catalytic control system, the manufacturer and/or recommended maintenance schedule and procedures or equivalent maintenance schedule and procedures developed by the Permittee or vendor to ensure optimum performance of the engine and its respective catalytic control system.

Observations: *In a 2018 EPA inspection record review, Ms. Jennifer Deal indicated that the manufacturer recommended engine maintenance is included in a "Task List" for the engine. Ms. Deal indicated that the catalyst maintenance is also included in the Task Lists. In an email dated 6/6/18, Ms. Deal provided engine and catalyst manufacturer recommended maintenance specifications. In an email dated 6/25/18 Ms. Deal provided example preventative maintenance checklists for the 1-month, 2-month, 4-month, 6-month and 1-year preventative maintenance that had been completed. During the 2022 inspection record review, Mr. Killough provided updated 1-month, 2-month, 4-month, 6-month, and 1-year preventative maintenance checklists.*

Additionally, Mr. Killough provided a spreadsheet indicating the preventative maintenance that had been conducted since August 2017.

(g) The Permittee may rebuild the existing permitted engine or replace the existing permitted engine with an engine of the same horsepower rating, and configured to operate in the same manner as the engine being rebuilt or replaced. Any emission limits, requirements, control technologies, testing or other provisions that apply to the permitted engine that is rebuilt or replaced shall also apply to the rebuilt and replaced engine.

Observations: *In an email dated 5/30/18, Ms. Deal indicated that #1 (SN C-13014/1) was installed on 1/12/05 and rebuilt on 4/12/13; and #2 (SN 240747) was installed on 5/23/07 and rebuilt on 1/4/12. Mr. Killough provided engine rebuild data since 2017 in an email dated 9/1/22. The information provided by Mr. Killough is included in Table 5 below.*

Table 5: Engine Installation, Rebuild and Replacement Information

Initial Compressor Install Date	Engine Manufacture Date	Engine Install Date	Engine Make, Model, and Manufacturer	Engine Serial No.	Maximum Engine Site Rating (hp)	Engine Rebuild and Replacement Events, August 1, 2017 – June 30, 2022 as reported by Hilcorp
1/12/2005	8/24/2001	9/28/2018	PKG,CMP,WAUKESHA,L7042GL,ARIEL,JGK-4 (Skid #1)	C-13405/1 (prev. C-13014/1)	1478	Like-kind engine swap occurred in September 2018. Existing engine with serial No. C-13014 was replaced with C-13405. Cost of engine re-build did not exceed the 50% threshold when comparing the cost of the re-build to the cost of an entirely new engine.
5/23/2007	12/2000	6/6/2019	PKG,CMP,WAUK,L5790GL, WORTH (Skid #3)	C-13394 (prev. 240747)	1215	Like-kind engine swap occurred in June 2019. Existing engine with serial No. 240747 was replaced with C-13394. Cost of engine re-build did not exceed the 50% threshold when comparing the cost of the re-build to the cost of an entirely new engine.

(h) The Permittee may resume operation without the catalytic control system during an engine break-in period, not to exceed 200 operating hours, for rebuilt and replaced engines.

Observations: *In an email dated 9/1/22, Mr. Killough described Hilcorp's engine break-in protocol: "Per engine swings, Hilcorp adheres to a 24-hour run period without the catalysts following the start-up. This is to ensure the pickling agent Waukesha Pearce puts in the replacement engines for weatherproofing is completely gone. In addition, this period is to ensure that the engines have not developed any other issues in transit that may damage the catalysts."*

4. <u>Performance Testing Requirements</u>

(a) Performance tests shall be conducted on the engine for measuring NO_X, CO, and CH_2O emissions to demonstrate compliance with each emission limitation in this permit. The performance tests shall be conducted in accordance with appropriate reference methods specified in 40 CFR part 63, appendix A and 40 CFR part 60, appendix A, or an EPA approved American Society for Testing and Materials (ASTM) method. The Permittee may submit to the EPA a written request for approval of an alternate test method, but

shall only use that alternate test method after obtaining approval from the EPA.

(i) The initial performance test for the engine shall be conducted within 90 calendar days of startup of a new engine.
(ii) Subsequent performance tests for CH_2O emissions shall be conducted within 12 months of the most recent performance test.
(iii) Performance tests shall be conducted within 90 calendar days of each catalyst replacement.
(iv) Performance tests shall be conducted within 90 calendar days of startup of all rebuilt and replaced engines.

Observations: *See Table 7, below, for annual performance tests results. Engine installation date and rebuild date are provided in Table 1 of this report, and additional information on Like-kind engine replacements and rebuilds is provided in Table 5. Catalyst replacement dates since 2017 were indicated by Mr. Killough to have occurred in February 2020 and August 2021, and subsequent testing was performed within 90 days of replacement.*

(b) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, or processes or operational parameters the day of the engine testing or during the engine testing. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid. Artificially increasing the engine load to meet testing requirements is not considered engine tuning or adjustments.

Observations: *The EPA has not been present during testing and did not inquire about engine tuning or adjustments being made during testing.*

(c) The Permittee shall not abort any engine test that demonstrates non-compliance with the emission limits in this permit.

Observations: *See discussion immediately above.*

(d) All performance tests conducted on the engine shall meet the following requirements:

(i) The pressure drop across the catalyst bed and the inlet temperature to the catalyst bed shall be measured and recorded at least once during each performance test.

(ii) All tests for NO_X and CO emissions shall be performed simultaneously.

(iii) All tests shall be performed at a maximum operating rate (90% to 110% of the maximum achievable engine load available on the day of the test). The Permittee may submit to the EPA a written request for approval of an alternate load level for testing, but shall only test at that alternate load level after obtaining approval from the EPA.

(iv) During each test run, data shall be collected on all parameters necessary to document how emissions were measured and calculated (such as test run length, minimum sample volume, volumetric flow rate, moisture and oxygen corrections, etc.).

(v) Each test shall consist of at least three 1-hour or longer valid test runs. Emission results shall be reported as the arithmetic average of all valid test runs and shall be in terms of the emission limits in this permit.

(vi) Performance test plans shall be submitted to the EPA for approval 60 calendar days prior to the date the test is planned.

Observations: *The test plan was submitted on 4/21/16 and approved by EPA on 8/22/16. Note that EPA's 8/22/16 approval appears to be for the portable analyzer protocol. However, the test plan is the same as was submitted to the EPA for the Argenta and Sunnyside compressor stations except the Ute plan also identifies Method 25a for measuring total hydrocarbons. EPA approved the Argenta and Sunnyside test plan on 7/12/16. The 4/21/16 document indicates the following test methods to be used include:*

Table 6: Performance Test Methods Followed

Parameter	*Synopses of operational test methods*
Flow Rate	*EPA Method 19*
H_2CO, NOx CO, O_2 and CO_2	*ASTM D6348-03*
O_2 and CO_2	*EPA Method 3a*
NOx	*Method 7e*
CO	*Method 10*
THC	*Method 25a*

(vii) Performance test plans that have already been approved by the EPA for the emission unit approved in this permit may be used in lieu of new test plans unless the EPA requires the submittal and approval of new test plans. The Permittee may submit new plans for EPA approval at any time.

Table 7: Results from annual performance tests

Test Date	*Engine*	*Serial #*	*% Load*	*Test length/ engine*	*NOx lbs/hr*	*CO lbs/hr*	*H_2CO lbs/hr*	*Pres Drop*	*Inlet Cat Temp*
8/24/21	*E002*	*C-13405/1*	*62.4*	*3 1-hour*	*0.92*	*0.05*	*0.07*	*1.7*	*644*
8/5/20	*E002*	*C-13405/1*	*66.3*	*3 1-hour*	*2.22*	*0.33*	*0.13*	*5.0*	*630*
8/8/19	*E002*	*C-13405/1*	*71.2*	*3 1-hour*	*1.41*	*0.03*	*0.03*	*9.0*	*668*
9/4/18	*E002*	*C-13014/1*	*74.4*	*3 1-hour*	*3.56*	*0.61*	*0.08*	*0.2*	*664*
9/19/17	*E002*	*C-13014/1*	*86.4*	*3 1-hour*	*2.91*	*0.24*	*0.038*	*4.6*	*701*
9/8/16	*E002*	*C-13014/1*	*76.2*	*3 1-hour*	*1.42*	*0.39*	*0.078*	*2.6*	*492*
8/31/15	*E002*	*C-13014/1*	*75*	*3 1-hour*	*1.3*	*0.36*	*0.048*	*6.1*	*512*
1/5/15	*E002*	*C-13014/1*	*90*	*3 1-hour*	*2.38*	*0.58*	*0.074*	*3.9*	*656*

(viii) The test plans shall include and address the following elements:

(A) Purpose of the test;
(B) Engines and catalytic control systems to be tested;
(C) Expected engine operating rate(s) during the test;
(D) Sampling and analysis procedures (sampling locations, test methods, laboratory identification);
(E) Quality assurance plan (calibration procedures and frequency, sample

recovery and field documentation, chain of custody procedures); and

(F) Data processing and reporting (description of data handling and quality control procedures, report content).

Observations: *On 4/21/16 ConocoPhillips submitted the test plan and monitoring protocol for Ute CS. Generally, the test plan and monitoring protocol contain the above information. The 4/21/16 document indicates that historically performance testing for E002 has been conducted in the 3rd quarter and portable monitoring in 1st, 2nd and 4th quarter.*

(e) The Permittee shall notify the EPA at least 30 calendar days prior to scheduled performance testing. The Permittee shall notify the EPA at least 1 week prior to scheduled performance testing if the testing cannot be performed.

Observations: ***Hilcorp did not submit performance testing notifications in 2017 or 2020 as noted in Table 8 below.***

Table 8: Performance Testing - Notification, Monitoring, and Reporting Dates.

Notification Date	*Test date*	*Report Received Date*
8/8/22	*N/A*	*N/A*
7/15/21	*8/24/21*	*11/24/21*
No notification	*8/5/20*	*9/24/20*
6/18/19	*8/8/19*	*8/27/19*
8/10/2018	*9/4/2018*	*10/9/18*
No notification	*9/6/17*	*1/31/17*
8/18/16 (revised) *7/5/16 (original)*	*9/6/16 – 9/9/16*	*9/20/16*
7/14/15	*8/31/15*	*10/5/15*
12/5/14	*1/5/15*	*2/4/15*

(f) If the permitted engine is not operating, the Permittee does not need to start up the engine solely to conduct a performance test. The Permittee may conduct the performance test when the engine is started up again.

Observations: *Annual emission reports provide the annual operating hours of engines. Based on the information received, E002 has been tested annually.*

5. Monitoring Requirements

(a) The Permittee shall continuously monitor the engine exhaust temperature at the inlet to the catalyst bed.

Observations: *During the inspection, Ms. Bergl observed the real-time pre-catalyst temperature being monitored on both engines. Additionally, in an email dated 9/1/22, Mr. Killough provided the catalyst inlet temperature data permit deviations recorded between 1/1/17 and 6/30/22 at 2 engines, although only Engine E002 (Engine #1) is subject to the temperature requirements of the SMNSR permit.* ***However, complete***

continuous monitoring temperature measurement data recorded pursuant to permit have not been provided at this time.

(b) Except during startups, which shall not exceed 30 minutes, if the engine's exhaust temperature at the inlet to the catalyst bed deviates from the acceptable ranges specified in this permit then the following actions shall be taken. The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.

(i) Within 24 hours of determining a deviation of the engine exhaust temperature at the inlet to the catalyst bed, the Permittee shall investigate. The investigation shall include testing the temperature sensing device, inspecting the engine for performance problems and assessing the catalytic control system for possible damage that could affect catalytic system effectiveness (including, but not limited to, catalyst housing damage, and fouled, destroyed or poisoned catalyst).

(ii) If the engine exhaust temperature at the inlet to the catalyst bed can be corrected by following the engine manufacturer and/or recommended procedures or equivalent procedures developed by the Permittee or vendor, and the catalytic control system has not been damaged, then the Permittee shall correct the engine exhaust temperature at the inlet to the catalyst bed within 24 hours of inspecting the engine and catalytic control system.

(iii) If the engine exhaust temperature at the inlet to the catalyst bed cannot be corrected using the engine manufacturer and/or recommended procedures or equivalent procedures developed by the Permittee or vendor, or the catalytic control system has been damaged, then the affected engine shall cease operating immediately and shall not be returned to routine service until the following has been met:

(A) The engine exhaust temperature at the inlet to the catalyst bed is measured and found to be within the acceptable temperature range for that engine; and

(B) The catalytic control system has been repaired or replaced, if necessary.

Observations: *See discussion above. Although deviations have been reported to EPA, complete continuous monitoring records have not been provided. Additionally, a discussion of corrective actions was not provided with the catalyst inlet temperature deviation data.* ***It's not clear what actions have been taken to address instances when temperature was out of range, as that information was not included in the temperature deviation spreadsheet provided on 9/1/22.***

(c) The Permittee shall monitor the pressure drop across the catalyst bed on the engine every 30 days using pressure sensing devices before and after the catalyst bed to obtain a direct reading of the pressure drop (also referred to as the differential pressure). *[Note to Permittee: Differential pressure measurements, in general, are used to show the pressure across the filter elements. This information will determine when the elements of the catalyst bed are fouling, blocked or blown out and thus require cleaning or replacement.]*

Observations: *During the inspection, Ms. Bergl observed the real-time pressure drop being monitored across the catalyst on all operating engines. Additionally, in an email dated 9/1/22,*

Mr. Killough provided a spreadsheet containing at least monthly pressure drop readings for C-13405/1 from 1/1/17 to 6/30/22. Based on the data submitted, multiple readings per day are recorded and then a daily average pressure drop reading is calculated. From the daily averages, a monthly pressure drop reading is calculated.

(d) The Permittee shall perform the first measurement of the pressure drop across the catalyst bed on the engine no more than 30 days from the date of the initial performance test. Thereafter, the Permittee shall measure the pressure drop across the catalyst bed, at a minimum, every 30 days. Subsequent performance tests, as required in this permit, can be used to meet the periodic pressure drop monitoring requirements provided it occurs within the 30-day window. The pressure drop reading can be a one-time measurement on that day, the average of performance test runs conducted on that day, or an average of all the measurements taken on that day if continuous readings are taken.

Observations: *See discussion immediately above.*

(e) If the pressure drop reading exceeds ± 2 inches of water from the baseline pressure drop established during the most recent performance test, then the following actions shall be taken. The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit:

(i) Within 24 hours of determining a deviation of the pressure drop across the catalyst bed, the Permittee shall investigate. The investigation shall include testing the pressure transducers and assessing the catalytic control system for possible damage that could affect catalytic system effectiveness (including, but not limited to, catalyst housing damage, and plugged, fouled, destroyed or poisoned catalyst).

(ii) If the pressure drop across the catalyst bed can be corrected by following the catalytic control system manufacturer and/or vendor recommended procedures or equivalent procedures developed by the Permittee or vendor, and the catalytic control system has not been damaged, then the Permittee shall correct the problem within 24 hours of inspecting the catalytic control system.

(iii) If the pressure drop across the catalyst bed cannot be corrected using the catalytic control system manufacturer and/or vendor recommended procedures or equivalent procedures developed by the Permittee or vendor, or the catalytic control system is damaged, then the Permittee shall do one of the following:

(A) Conduct a performance test within 90 calendar days, as specified in this permit, to ensure that the NO_X, CO, and CH_2O emission limits are being met and to re-establish the pressure drop across the catalyst bed. The Permittee shall measure CO and NO_X emissions using a portable analyzer and a monitoring protocol approved by the EPA to establish a new temporary pressure drop baseline until a performance test can be scheduled and completed; or

(B) Cease operating the affected engine immediately. The engine shall not be returned to routine service until the pressure drop is measured and found to be within the acceptable pressure range for that engine as determined from the most recent performance test. Corrective action may include

removal and cleaning of the catalyst or replacement of the catalyst.

Observations: *As indicated above, pressure drop readings from 1/1/17 to 6/30/22 were provided. The permit requires a comparison of the pressure drop to the baseline pressure drop established during the most recent performance test. The pressure drop data recorded during performance testing is provided in Table 7, above. Table 9 provides monthly pressure drop data as compared to the baseline pressure drop established during the most recent performance test. EPA has determined that baseline pressure drop values were re-established during annual performance tests as well as after engine rebuilds and catalyst changes.*

Based on the data provided by Mr. Killough in a 9/1/22 email, it appears that Hilcorp is comparing monthly pressure drop readings to the pressure drop measured during the most recent quarterly tests, including from quarterly portable analyzer tests. Permit condition C.5.e specifically requires the actions in C.5.e.i – C.5.e.iii be taken "If the pressure drop reading exceeds ± 2 inches of water from the baseline pressure drop established during the most recent performance test", where testing is considered to be a performance test if it meets the requirements outlined in Permit condition C.4.d.(i-v). Quarterly portable analyzer tests do not meet these requirements, and the pressure drop measured during these tests is therefore not an appropriate value to be used in determining deviations of monthly pressure drop readings.

Since 2018, there appear to have been several deviations of pressure drop data from the established baseline, as well as missing monthly data points. A description of corrective actions taken following each deviation was not provided, so it's not clear whether all appropriate actions have been taken when deviations have occurred.

The 2017, 2018 and 2019 annual deviation reports indicate that the "pressure drop across the catalyst bed was not always maintained within ± 2 inches of water during the reporting period. Fluctuations in pressure drop across the catalysts can occur due to changes in engine operating load." The deviation reports indicate that the following corrective actions or preventative measures were taken: "No corrective actions required. Investigate each month and verify with load calculations, monthly portable analyzer screenings are conducted to verify catalyst performance, and quarterly performance tests consistently demonstrate emission limits are being met." Additionally, the 2021 deviation report notes that pressure drop was not monitored on E002 from 3/31 to 5/4, >30 days, although a pressure drop value was reported for that timeframe in the data provided by Hilcorp.

Table 9: Engine E002 monthly pressure drop readings.

	2018		2019		2020		2021		2022	
Month	Monthly Reading	Baseline	Monthly Reading	Baseline	Monthly Reading	Baseline	Monthly Reading	Baseline	Monthly Reading	Baseline
Jan	3.8	4.5	5.6	7.4	9.0	9.0	**0.88**	5.0	0.88	1.7
Feb	4.0	4.5	5.6	7.4	**3.7**	9.0	**0.88**	5.0	0.88	1.7
Mar	4.1	4.5	6.2	7.4	**-0.2**	9.0	**0.88**	5.0	0.88	1.7
Apr	4.1	4.5	**4.0**	7.4	**1.7**	9.0	**0.88**	5.0	0.91	1.7
May	4.4	4.5	5.6	7.4	**2.5**	9.0	**0.88**	5.0	1.40	1.7
Jun	**7.2**	4.5	6.1	7.4	9.8	9.0	**0.9**	5.0	0.88	1.7
Jul	**6.9**	4.5	**0.3**	7.4	**1.5**	9.0	**0.9**	5.0	1.90	1.7
Aug	**missing**	4.5	**0.4**	7.4	**2.8**	5.0	0.9	1.7	1.80	1.7

Sep	*0.3*	*0.3*	*9.7*	*9.0*	*3.0*	*5.0*	*0.9*	*1.7*		
Oct	*7.4*	*7.4*	*8.4*	*9.0*	*4.9*	*5.0*	*0.9*	*1.7*		
Nov	***missing***	*7.4*	*7.5*	*9.0*	*4.5*	*5.0*	*0.9*	*1.7*		
Dec	*7.4*	*7.4*	***6.0***	*9.0*	*3.8*	*5.0*	*0.9*	*1.7*		

(f) The Permittee shall measure NO_X and CO emissions from the engine at least quarterly to demonstrate compliance with the engine's emission limits in this permit. To meet this requirement, the Permittee shall:

(i) Measure NO_X and CO emissions at the normal operating load using a portable analyzer and a monitoring protocol approved by the EPA or conduct a performance test as specified in this permit;

Observations: *The portable monitoring protocol was submitted on 4/21/16 and approved by EPA on 8/22/16. NOx and CO emissions are tested quarterly according to this protocol.*

(ii) Measure the NO_X and CO emissions simultaneously; and

(iii) Commence monitoring for NO_X and CO emissions within 3 months of the Permittee's submittal of the initial performance test results for NO_X and CO emissions to the EPA.

Observations: *Portable analyzer monitoring results have generally been submitted,* ***except 4th quarter 2019****. See results in Table 10, below. Quarterly monitoring occurs in the 1st, 2nd, and 4th quarters and annual 3 1-hour performance tests are conducted in the 3rd quarter of the year. See Table 7 for 3rd quarter testing results.*

Table 10: Quarterly portable analyzer monitoring results

Test Date	*Engine*	*Serial #*	*% Load*	*Test length/ engine*	*NOx lbs/hr*	*CO lbs/hr*	*Pres Drop*	*Inlet Cat Temp*
6/28/22	*E002*	*C-13405/1*	*59*	*1- 21-minute*	*0.52*	*0.46*	*1.8*	*626*
3/7/22	*E002*	*C-13405/1*	*48*	*1 -21-minute*	*0.49*	*0.29*	*1.9*	*629*
11/16/21	*E002*	*C-13405/1*	*52*	*1 -21-minute*	*0.64*	*0.34*	*1.8*	*620*
5/5/21	*E002*	*C-13405/1*	*50*	*1 -21-minute*	*0.63*	*0.60*	*1.8*	*615*
2/16/21	*E002*	*C-13405/1*	*42*	*1- 21-minute*	*0.53*	*0.48*	*1.8*	*609*
11/10/20	*E002*	*C-13405/1*	*42*	*1 -21-minute*	*0.41*	*0.38*	*3.1*	*628*
4/28/20	*E002*	*C-13405/1*	*42*	*1 -21-minute*	*0.65*	*0.16*	*2*	*564*
3/18/20	*E002*	*C-13405/1*	*56*	*1- 21-minute*	*0.9*	*0.15*	*2.7*	***NR***

Notice 10/2/19	*E002*	***Results not sent***	**-**	**-**	**-**	**-**	**-**	**-**
5/6/19	*E002*	*C-13405/1*	*64*	*1 -21-minute*	*1.08*	*0.16*	*7.7*	*648*
3/6/19	*E002*	*C-13405/1*	*60*	*1- 21-minute*	*1.07*	*0.25*	*4*	*638*
12/3/18	*E002*	*C-13405/1*	*74*	*1 -21-minute*	*0.81*	*0.38*	*7.5*	*633*
6/5/18	*E002*	*C-13014/1*	*60*	*1 -21-minute*	*1.67*	*0.43*	*5*	*527*
3/6/18	*E002*	*C-13014/1*	*60*	*1- 21-minute*	*0.81*	*0.45*	*4.2*	*513*
12/6/17	*E002*	*C-13014/1*	*60*	*1 -21-minute*	*0.99*	*0.41*	*4.2*	*514*

(g) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, or processes or operational parameters on the day of or during measurements. Any such tuning or adjustments may result in a determination by the EPA that the result is invalid. Artificially increasing an engine load to meet the testing requirements is not considered engine tuning or adjustments.

Observations: *The EPA has not been present during testing and did not inquire about engine tuning or adjustments being made during testing.*

(h) If the results of 2 consecutive quarterly portable analyzer measurements demonstrate compliance with the NO_X and CO emission limits, the required monitoring frequency may change from quarterly to semi-annually.

Observations: *On 1/3/18 Hilcorp submitted test results and portable monitoring results from the third and fourth quarter 2017. Hilcorp's 1/3/18 communication indicated that they are going to go to semiannual monitoring since they had two quarters of data showing compliance with NOx and CO limits. However, since 2019, Hilcorp has generally adhered to quarterly monitoring. See Table 10 above.*

(i) If the results of any subsequent portable analyzer measurements demonstrate non-compliance with the NO_X or CO emission limits, required monitoring frequency shall change from semi-annually to quarterly.

Observations: *To date, no quarterly test results have shown non-compliance with emission limits.*

(j) The Permittee shall submit portable analyzer specifications and monitoring protocols for NO_X and CO to the EPA at the following address for approval at least 45 calendar days prior to the date of initial portable analyzer monitoring:

U.S. Environmental Protection Agency, Region 8
Office of Enforcement, Compliance & Environmental Justice
Air Toxics and Technical Enforcement Program, 8ENF-AT
1595 Wynkoop Street

Denver, Colorado 80202

Observations: *A portable analyzer protocol was submitted to EPA on 4/13/16. EPA approved the protocols on 7/12/16. The 4/13/16 submittal indicates that they are using the Wyoming Portable Analyzer Protocol for testing.*

(k) Portable analyzer specifications and monitoring protocols that have already been approved by the EPA for the emission units approved in this permit may be used in lieu of new protocols unless the EPA requires the submittal and approval of a new protocol. The Permittee may submit a new protocol for EPA approval at any time.

(l) The Permittee is not required to conduct emissions monitoring of NO_X, CO, and CH_2O emissions and parametric monitoring of exhaust temperature and catalyst differential pressure on engines that have not operated during the monitoring period. The Permittee shall certify that the engine did not operate during the monitoring period in the annual report specified in this permit.

Observations: *The annual emissions report identifies the operating hours of the engines. As indicated in the Table 10, above, it appears that E002 has been tested quarterly.*

6. Recordkeeping Requirements

(a) Records shall be kept of manufacturer and/or vendor specifications or equivalent specifications developed by the Permittee or vendor, and maintenance requirements for the engine, catalytic control system, temperature-sensing device, and pressure-measuring device.

Observations: *In a 2018 EPA inspection record review, Ms. Jennifer Deal indicated that the manufacturer recommended engine maintenance is included in a "Task List" for the engine. Ms. Deal indicated that the catalyst maintenance is also included in the Task Lists. In an email dated 6/6/18, Ms. Deal provided engine and catalyst manufacturer recommended maintenance specifications. In an email dated 6/25/18 Ms. Deal provided example preventative maintenance checklists for the 1-month, 2-month, 4-month, 6-month and 1-year preventative maintenance that had been completed. During the 2022 inspection record review, Mr. Killough provided updated 1-month, 2-month, 4-month, 6-month, and 1-year preventative maintenance checklists. Additionally, Mr. Killough provided a spreadsheet indicating the preventative maintenance that had been conducted since August 2017.*

(b) Records shall be kept of all calibration and maintenance conducted for the engine, catalytic control system, temperature-sensing device, and pressure-measuring device.

Observations: *In an email dated 9/1/22 Mr. Killough provided example preventative maintenance checklists for the 1-month, 2-month, 4-month, 6-month and 1-year preventative maintenance. The 6-month maintenance was specific to the catalyst. Additionally, Mr. Killough provided a spreadsheet indicating when preventative maintenance, including maintenance on the catalyst, had been conducted from 8/1/2017-6/30/2022.*

(c) Records shall be kept that are sufficient to demonstrate that the fuel used for the engine is

pipeline-quality natural gas in all respects, with the exception of CO_2 concentrations.

Observations: *Mr. Killough provided gas analysis performed since 2015 to demonstrate that the fuel used for the engine is pipeline quality natural gas.* ***Mr. Killough's records indicate that gas analysis on the engine fuel was not performed between 8/1/17 and 5/29/20.*** *In an email dated 6/25/18 Ms. Deal forwarded previous email communication from Adam Eisele, EPA to Sherrie McGowan, ConocoPhillips, where Mr. Eisele indicated that annual natural gas fuel testing was sufficient.*

(d) Records shall be kept of all temperature measurements required in this permit, as well as a description of any corrective actions taken pursuant to this permit.

Observations: *At this time, only temperature deviations have been provided to the EPA.* ***Complete temperature measurement data or a description of corrective actions taken pursuant to this permit have not been provided at this time.***

(e) Records shall be kept of all pressure drop measurements required in this permit, as well as a description of any corrective actions taken pursuant to this permit.

Observations: *Pressure drop measurement data was provided upon request.* ***Since 2018, there appear to have been several deviations of pressure drop data from the established baseline, as well as two missing monthly data points. A description of corrective actions taken following deviations was not provided.***

(f) Records shall be kept of all required testing and monitoring in this permit. The records shall include the following:

(i) The date, place, and time of sampling or measurements;
(ii) The date(s) analyses were performed;
(iii) The company or entity that performed the analyses;
(iv) The analytical techniques or methods used;
(v) The results of such analyses or measurements; and
(vi) The operating conditions as existing at the time of sampling or measurement.

Observations: *The performance test reports are submitted to EPA within required timeframes. Quarterly monitoring reports have also been submitted to EPA, except as noted above.*

(g) Records shall be kept of all catalyst replacements or repairs, engine rebuilds and engine replacements.

Observations: *See Table 1 and Table 5 for engine rebuild and replacement events. In a 9/1/22 email from Mr. Killough, catalyst replacement and repair records were provided. Catalyst replacement dates since 2017 were indicated by Mr. Killough to have occurred in February 2020 and August 2021*

(h) Records shall be kept of each rebuilt or replaced engine break-in period, pursuant to the requirements of this permit, where an existing engine that has been rebuilt or replaced resumes operation without the catalyst control system, for a period not to exceed 200 operating hours.

Observations: *In an email dated 9/1/22, Mr. Killough described Hilcorp's engine break-in protocol: "Per engine swings, Hilcorp adheres to a 24-hour run period without the catalysts following the start-up. This is to ensure the pickling agent Waukesha Pearce puts in the replacement engines for weatherproofing is completely gone. In addition, this period is to ensure that the engines have not developed any other issues in transit that may damage the catalysts."*

(i) Records shall be kept of each time the engine is shut down due to a deviation of the inlet temperature to the catalyst bed or pressure drop across the catalyst bed. The Permittee shall include in the record the cause of the problem, the corrective action taken, and the timeframe for bringing the pressure drop and inlet temperature range into compliance.

Observations: *In a 9/1/22 email, Mr. Killough stated, in regards to this requirement, "In the event that a catalyst reading is shown to be out of compliance, Hilcorp personnel are alerted and required to inspect the instrumentation for any possible plugs that need to be addressed. If the alarm is determined to be caused by a 3rd party upset (or scheduled PM), weather event (i.e. freezing, rainfall), or false alarm, the unit will continue to run as long as the inlet catalyst temperature range and DP readings are compliant. However, for all other events, the catalyst is inspected completely for any issues or concerns. If a replacement is needed, a work order is generated and carried out immediately." In an email dated 6/25/18, Ms. Deal indicated that to their "knowledge a permitted engine has never been shut down due to deviations of the inlet temperature or catalyst bed or pressure drop across the catalyst bed."*

D. Requirements for Pneumatic Controllers

1. The Permittee shall install, maintain, and operate pneumatic controllers that meet one or more of the following emission control technologies:

(a) Air actuated controllers;
(b) Electronically actuated controllers;
(c) Low-bleed natural gas actuated controllers (no more than 6 standard cubic feet per hour of natural gas); or
(d) No-bleed natural gas actuated controllers.

Observations: *During a previous inspection, Hilcorp indicated that all pneumatic controllers were low bleed or no bleed controllers. In an email dated 9/1/22, Mr. Killough provided a spreadsheet identifying the types of pneumatic controllers installed at the facility. The pneumatic controllers installed at Ute are identified in Attachment 1.*

2. Each controller shall be operated and maintained according to manufacturer or vendor specifications or equivalent procedures developed by the Permittee or vendor.

3. Beginning with the effective date of this permit, records shall be kept of the date of installation of the controllers, the manufacturer or vendor specifications of the controllers or equivalent specifications developed by the Permittee or vendor, and all scheduled maintenance and repairs on the controllers.

Observations: *In an email dated 9/1/22, Mr. Killough provided a spreadsheet identifying the types of pneumatic controllers installed at the facility. Records review from the 2018 CAA*

inspection indicate the controllers were installed prior to 2011.

E. Requirements for Condensate Storage Tanks

1. Applicability

The requirements in this section apply to two (2) 300-barrel capacity storage tanks used to store natural gas condensate.

2. Monitoring Requirements

(a) The Permittee shall physically inspect the condensate tanks each month using AVO methods to detect leaks that could result in air emissions.

(b) The inspection shall include thief hatches, storage tanks, and associated process piping, but shall not include normal storage tank venting.

(c) The monthly inspections shall be separated by at least 14 calendar days.

(d) In the event that a leak or defect is detected, the Permittee shall repair the leak or defect according to the following schedule:

(i) A first attempt at repair shall be made no later than 15 calendar days after the leak is detected;

(ii) If the repair involves installation of parts that cannot be obtained within the first 15 calendar-day window, the repair may be delayed until the next 15 calendar-day period;

(iii) Repair shall be completed no later than 30 calendar days after the leak or defect is detected;

(iv) If the repair cannot be completed within the 30-day window because it requires a shutdown of the entire facility and/or replacement parts are unavailable, the repair may be delayed until the next process unit shutdown. Leaking equipment shall be repaired by the end of the next process shutdown.

(v) Grease or another applicable substance shall be applied to deteriorating or cracked gaskets to improve the seal while awaiting repair.

Observations: *In an email dated 9/1/22, Mr. Killough provided a spreadsheet identifying all the tank inspections and one example completed tank inspection report. Ms. Bergl noted that monthly tank inspections were not completed in April 2018 and January 2020. The example tank inspection report does not identify any leaks with the tanks. The spreadsheet indicates when inspection occurred but does not identify if any issues were found with the tanks.*

3. Recordkeeping Requirements:

The Permittee shall maintain records of each AVO inspection to include the date of inspection, a description of each leak or defect identified, the corrective actions taken to repair the leak or

defect, and the date of repair.

Observations: *See immediately above.*

F. Requirements for Leak Detection and Repair (LDAR)

1. The Permittee shall implement a LDAR monitoring program for detecting emissions of volatile organic compound (VOC) emissions due to leaking equipment.

   Observations: *Hilcorp generally submits semiannual and annual reports of the LDAR monitoring that occurs at the facility, indicating that a LDAR monitoring program has been implemented.*

2. The Permittee shall develop a written LDAR protocol that, at a minimum, specifies the following:

   (a) The use of an infrared camera for the detection of VOC leaks;
   (b) The technical procedures for monitoring with the infrared camera;
   (c) A schedule for conducting semiannual monitoring;
   (d) Monitoring of "equipment" per the approved LDAR protocol;
   (e) A definition of when a "leak" is detected;
   (f) A repair schedule for leaking equipment (including delay of repair); and
   (g) A recordkeeping format.

   Observations: *The LDAR protocol was submitted to EPA on 7/31/12.*

3. The Permittee shall submit the LDAR protocol to the EPA at the following address for approval at least 45 calendar days prior to the date of initial monitoring:

   U.S. Environmental Protection Agency, Region 8
   Office of Enforcement, Compliance & Environmental Justice
   Air Toxics and Technical Enforcement Program, 8ENF-AT
   1595 Wynkoop Street
   Denver, Colorado 80202

4. LDAR protocols that have already been approved by the EPA may be used in lieu of new protocols unless the EPA requires the submittal and approval of a new LDAR protocol.

5. The Permittee may submit a revised LDAR protocol at any time for EPA approval. The existing LDAR protocol will remain in effect until a revised LDAR protocol is approved by the EPA.

   Observations: *The LDAR protocol was submitted to EPA on 5/15/12. Ms. Deal also provided a copy of the protocol on 6/25/18. A 7/31/12 letter from ConocoPhillips submitting the Argenta and Sunnyside Compressor Station LDAR protocol indicates that the Ute LDAR protocol was approved in a 5/24/12 email from EPA.*

6. In the event that the EPA determines that the LDAR monitoring program is not meeting its intended goals, the Permittee shall submit a revised LDAR protocol upon request by the EPA.

Observations: *EPA has not determined that the LDAR monitoring program is not meeting its intended goals.*

7. Leak detection monitoring shall commence upon approval of the LDAR protocol by the EPA.

Observations: *The LDAR protocol was submitted to EPA on 5/15/12. Based on LDAR reports submitted, LDAR monitoring is being conducted.*

8. LDAR monitoring shall be conducted at least semi-annually in accordance with an approved LDAR protocol and shall be conducted a minimum of 5 calendar months apart.

Observations: *Hilcorp submits semiannual and annual reports of the LDAR monitoring that is conducted. See Table 11 below for LDAR monitoring dates.*

9. The Permittee shall notify the EPA in writing at least 30 calendar days prior to any LDAR monitoring conducted. If monitoring cannot be performed on the scheduled date, the Permittee shall notify EPA at least 1 week prior to the scheduled date and reschedule the monitoring to satisfy the monitoring frequency requirements.

Observations: *Notifications were provided to the EPA as shown in Table 11.* ***A notification was not provided for the 3/17/19 LDAR monitoring event.***

Table 11: LDAR Monitoring – Notification, Monitoring, and Reporting Dates.

Notification Date	*Monitoring Date*	*Reporting Date (semi/annual)*	
8/8/22	*9/8/22 – 9/16/22*	*Not rcvd*	*Not rcvd*
1/31/22	*3/7/22 – 3/11/22*	***Not rcvd***	*Not rcvd*
8/11/21	*9/13/21*	***Not rcvd***	*3/30/22*
1/25/21	*3/17/21*	***Not rcvd***	*3/30/22*
8/12/20	*9/23/20*	*10/6/20*	*1/22/21*
2/4/20	*3/6/20*	***Not rcvd***	*1/22/21*
8/1/19	*9/13/19*	*10/1/19*	*1/30/20*
1st half 2019 not rcvd	*3/18/19*	*4/8/19*	*1/30/20*
8/8/18	*9/26/18*	*10/16/18*	*1/25/19*
3/9/18	*4/10/18*	*5/1/18*	*1/25/19*
8/7/17	*9/14/17*	*10/26/17*	*1/30/18*
2/9/17	*3/13/17*	*4/4/17*	*1/30/18*

10. The Permittee shall maintain a record of all EPA approved LDAR protocols.

Observations: *See above.*

11. The Permittee shall maintain a record of the results of all LDAR monitoring and any necessary equipment repairs due to VOC leaks.

Observations: *Hilcorp generally submits semiannually and annually the results of all LDAR monitoring. The LDAR reports identify equipment leaks and repairs.*

G. Requirements for Records Retention

1. The Permittee shall retain all records required by this permit for a period of at least 5 years from

the date the record was created.

Observations: *Annual and semi-annual reports submitted via email were used to review LDAR monitoring; Additional LDAR records were not requested for this records review.*

2. Records shall be kept in the vicinity of the facility, such as at the facility, the location that has day-to-day operational control over the facility, or the location that has day-to-day responsibility for compliance of the facility.

Observations: *EPA did not conduct an on-site records review.*

H. Requirements for Reporting

1. Annual Emission Reports

(a) The Permittee shall submit a written annual report of the actual annual emissions from all emission units at the facility covered under this permit; including emissions from start-ups, shutdowns, and malfunctions, each year no later than April 1st. The annual report shall cover the period for the previous calendar year. All reports shall be certified to truth and accuracy by the person primarily responsible for Clean Air Act compliance for the Permittee.

Observations: ***The 2021 annual emissions report appears to have not been received.*** *Aside from the 2021 report, annual emissions reports have been submitted, and report facility-wide emissions (tpy), as shown in Table 12.*

Table 12: Reported annual emissions

Report Date	*Year*	*NOx**	*CO**	*VOC**	*PM**	*SO_2**	*CH_2O**	*Benzene*	*Total HAPs**
Not Rcvd	***2021***	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*
3/9/21	*2020*	*56.02*	*56.14*	*40.40*	*0.89*	*1.96*	*4.04*	*0.21*	*6.24*
2/26/20	*2019*	*56.24*	*56.45*	*40.43*	*0.89*	*1.96*	*4.06*	*0.21*	*6.26*
3/1/19	*2018*	*56.86*	*57.31*	*40.62*	*0.90*	*1.97*	*4.12*	*0.21*	*6.33*
2/1/18	*2017*	*56.27*	*56.27*	*40.37*	*0.89*	*1.96*	*4.08*	*0.21*	*6.28*
3/28/17	*2016*	*55.4*	*54.38*	*37.6*	*0.8*	*1.2*	*4.02*	*0.17*	*5.04*

**NOx = nitrogen oxide; CO = carbon monoxide; VOC = volatile organic compound; PM = particulate matter; SO_2 = sulfur dioxide; CH_2O = formaldehyde; HAP = hazardous air pollutant.; NR = Not reported.*

(b) The report shall be submitted to:

U.S. Environmental Protection Agency, Region 8
Office of Partnerships and Regulatory Assistance
Tribal Air Permitting Program, 8P-AR
1595 Wynkoop Street
Denver, Colorado 80202

The report may be submitted via electronic mail to r8AirPermitting@epa.gov.

2. All other documents required to be submitted under this permit, with the exception of the Annual Emission Reports, shall be submitted to:

U.S. Environmental Protection Agency, Region 8
Office of Enforcement, Compliance & Environmental Justice
Air Toxics and Technical Enforcement Program, 8ENF-AT
1595 Wynkoop Street
Denver, Colorado 80202

All documents may be submitted electronically to r8airreportenforcement@epa.gov.

3. The Permittee shall submit a written LDAR monitoring report each year no later than April 1st. The annual report shall include the semi-annual LDAR monitoring results for the previous calendar year.

Observations: *See Table 11 for annual LDAR reporting dates.*

4. The Permittee shall promptly submit to the EPA a written report of any deviations of permit requirements and a description of the probable cause of such deviations and any corrective actions or preventative measures taken. A "prompt" deviation report is one that is post marked or submitted via electronic mail to r8airreportenforcement@epa.gov as follows:

(a) Within 30 days from the discovery of any deviation of the emission or operational limits that is left un-corrected for more than 5 days after discovering the deviation;

(b) Within 30 days from the discovery of an equipment leak as a result of the semi-annual LDAR monitoring that is left un-corrected for more than 5 days after discovering the leak; and

(c) By April 1st for the discovery of a deviation of recordkeeping or other permit conditions during the preceding calendar year that do not affect the Permittee's ability to meet the emission limits.

Observations: *Hilcorp has submitted annual deviation reports as shown in Table 13.*

Table 13: Deviation reports

Report Date	*Deviations noted*
4/2/22	• *Failing to notify EPA within one week of inability to perform testing* • *Did not monitor pressure drop from 3/31 to 5/4, >30 days*
2/26/21	• *Notification for February 10, 2020 testing was sent 6 days prior to testing instead of the required 30 days*
1/30/20	• *Failing to meet E002 engine pressure drop requirements* • *Notification for May 6, 2019 testing was sent 13 days prior to testing instead of the required 30 days* • *No notification was submitted for March 7, 2019 LDAR monitoring*
3/5/19	• *Failing to meet E002 engine pressure drop requirements*
1/31/18	• *Failing to meet E002 engine pressure drop requirements* • *Failing to notify EPA prior to testing* • *Failing to submit test report within 60 days.*

3/28/17	• *Intermittent compliance with temperature requirements for E002* • *Intermittent compliance regarding testing plan* • *Intermittent compliance regarding prompt deviation reporting*

5. The Permittee shall submit a written report for any required performance tests to the EPA Regional Office within 60 days after completing the tests.

   Observations: *Generally, Hilcorp submits reports as required, except for a late submittal for 2017 and 2020, as highlighted in Table 8 of this report.*

6. The Permittee shall submit any record or report required by this permit upon EPA request.

   Observations: *Following the onsite inspection, Ms. Bergl requested multiple documents. Mr. Killough provided the information as requested.*

IX. Subpart JJJJ Requirement

June 2019 – 2022 Review

Engine E001 (Engine #3) was previously subject to NSPS JJJJ due to a modification that occurred in 2011 but has not met the requirements of NSPS JJJJ since 2019. The NSPS JJJJ compliance analysis in this report is for 2017-2019 while E001 was meeting the testing and maintenance requirements of NSPS JJJJ.

In June 2019, a like-kind engine swap occurred: Existing engine with serial No. 240747 was replaced with C-13394, which was manufactured in December 2000. Engine E001 was performance tested in August 2019, within 60 days of the replacement, which demonstrated initial compliance with Table 1 of NSPS JJJJ. Outside of this test, Engine E001 ceased meeting the requirements under NSPS JJJJ and has not been tested annually or quarterly since August 2019.

According to Mr. Killough, cost of the engine re-build did not exceed the 50% threshold when comparing the cost of the re-build to the cost of an entirely new engine. Since cost did not exceed 50%, the engine swap does not meet the definition of a reconstruction triggering NSPS JJJJ applicability. A modification under 40 CFR § 60.2 means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted. A like-kind engine swap would not be expected to increase emissions. 40 CFR § 60.14(e)(1) further clarifies that "Maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of paragraph (c) of this section and § 60.15…. Shall not, by themselves, be considered modifications under this part".

Due to Engine E001, serial number C-13394's manufacture date and other factors it appears E001 is no longer subject to the requirements of NSPS JJJJ.

Following the like-kind engine installation in 2019, E001 is considered a New stationary RICE under MACT ZZZZ definitions. The only requirement in MACT ZZZZ for stationary SI RICE located at area sources of HAP that commence construction on or after June 12, 2006 is to meet the requirements of NSPS JJJJ. However, 40 CFR § 60.4230(a)(4)(ii) specifies that for engines with a maximum engine power greater than 500 HP and less than 1,350 HP, NSPS JJJJ only applies if the engine was manufactured on or after July 1, 2008, except as provided under 40 CFR § 60.4230(a)(6).

Since this engine was manufactured prior to July 1, 2008, it is not subject to NSPS JJJJ, except as provided under 40 CFR § 60.4230(a)(6). Therefore, the engine currently does not have to meet any requirements, except as provided under § 60.4230(a)(6), since MACT ZZZZ only requires that it meet the applicable requirements of NSPS JJJJ, but there are no applicable requirements under NSPS JJJJ, except as provided under § 60.4230(a)(6).

40 CFR § 60.4230(a)(6) requires E001 to meet the provisions of 40 CFR § 60.4236 which prohibits lean burn engines with an engine power 500≤HP≤1,350 from being installed after January 1, 2010 unless the applicable requirements of 40 CFR § 60.4233 are met. 40 CFR § 60.4233 prescribes adherence to Table 1 of NSPS JJJJ for Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP). A performance test conducted on 8/8/19 indicates that E001 is complying with Table 1 of NSPS JJJJ.

2017 – June 2019 Review

A. 40 CFR § 60.4230 Am I subject to this subpart?

(1) - (4) *Do not apply to Ute.*

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (6) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(5) Owners and operators of stationary SI ICE that are modified or reconstructed after June 12, 2006, and any person that modifies or reconstructs any stationary SI ICE after June 12, 2006.

(6) The provisions of §60.4236 of this subpart are applicable to all owners and operators of stationary SI ICE that commence construction after June 12, 2006.

(b)-(f) *Do not apply to Ute.*

Observations: *The permit application indicates that that E-1 [E001] was modified in 2011 and is subject to Subpart JJJJ and that E-2 [E002] was constructed prior to July 1, 2007 and is not subject to Subpart JJJJ.*

B. 40 CFR § 60.4233 What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?

(a) – (e), (g) and (h) *Do not apply to Ute.*

(f) Owners and operators of any modified or reconstructed stationary SI ICE subject to this subpart must meet the requirements as specified in paragraphs (f)(1) through (5) of this section.

(1) – (3), and (5) *Do not apply to Ute.*

(4) Owners and operators of stationary *SI natural gas* and lean burn LPG engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed

after June 12, 2006, must comply with the same emission standards as those specified in paragraph (d) or (e) of this section, except that such owners and operators of non-emergency engines and emergency engines greater than or equal to 130 HP must meet a nitrogen oxides (NOX) emission standard of 3.0 grams per HP-hour (g/HP-hr), a CO emission standard of 4.0 g/HP-hr (5.0 g/HP-hr for non-emergency engines less than 100 HP), and a volatile organic compounds (VOC) emission standard of 1.0 g/HP-hr, or a NOX emission standard of 250 ppmvd at 15 percent oxygen (O2), a CO emission standard 540 ppmvd at 15 percent O2 (675 ppmvd at 15 percent O2 for non-emergency engines less than 100 HP), and a VOC emission standard of 86 ppmvd at 15 percent O2, where the date of manufacture of the engine is:

(i) Prior to July 1, 2007, for non-emergency engines with a maximum engine power greater than or equal to 500 HP (except lean burn natural gas engines and LPG engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) –(iv) *Do not apply to Ute.*

Observations: *E-1 [E001] is subject to the emission limits in § 60.4233(f)(4). See performance testing results in Table 14, below.*

C. 40 CFR § 60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?

(a), (b) [except as noted below] (d), (f), and (h) *Do not apply to Ute*

(c) If you are an owner or operator of a stationary SI internal combustion engine that must comply with the emission standards specified in §60.4233(f), you must demonstrate compliance according paragraph (b)(2)(i) or (ii)** of this section, except that if you comply according to paragraph (b)(2)(i) of this section, you demonstrate that your non-certified engine complies with the emission standards specified in §60.4233(f).

**(b)(2)(i) *does not apply to Ute.*
(b)(2)(ii) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

Observation: *Hilcorp tests engine E001 annually. In a 2018 EPA inspection record review, Ms. Jennifer Deal indicated that the manufacturer recommended engine maintenance is included in a "Task List" for the engine. Ms. Deal indicated that the catalyst maintenance is also included in the Task Lists. In an email dated 6/6/18, Ms. Deal provided engine and catalyst manufacturer recommended maintenance specifications. In an email dated 6/25/18 Ms. Deal provided example preventative maintenance checklists for the 1-month, 2-month, 4-month, 6-month and 1-year preventative maintenance that had been completed. During the 2022 inspection record review, Mr. Killough provided updated 1-month, 2-month, 4-month, 6-month, and 1-year preventative maintenance checklists. Additionally, Mr. Killough provided a*

spreadsheet indicating the preventative maintenance that had been conducted since August 2017.

(e) Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of §60.4233.

Observations: *Hilcorp indicated during the 2018 EPA inspection that the engine does not use propane.*

(g) It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

Observations: *Records indicate that all engines have AFR controllers.*

(i) If you are an owner or operator of a modified or reconstructed stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(f), you must demonstrate compliance according to one of the methods specified in paragraphs (i)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in §60.4233(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in §60.4244. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

Observations: *Hilcorp conducts annual performance testing on E001. See results shown in the Table 14, below.*

D. 40 CFR § 60.4244 What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?

Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by *Table 2* to this subpart.

Table 2 to Subpart JJJJ of Part 60—Requirements for Performance Tests
This table identifies the approved test methods that can be used, and procedures to follow, for determining sampling port location and the number/location of traverse points at the exhaust of the stationary internal combustion engine; O_2 concentration; exhaust flowrate; moisture; and NOx, CO and VOC concentrations.

Observations: *Test results for engine E001 Waukesha L5790GL, Serial number 240747 are provided in Table 14. Method ASTM D6348-03 was used for all tests.* **Performance test results for this engine have not been provided since the 8/8/19 performance test. VOC emissions were not included in the test results for the 8/8/2019 test.**

Table 14: NSPS JJJJ Performance test results for E001

Test Date	*3 60-minute test runs*	*Average % Load*	*NOx g/hp-hr*	*CO g/hp-hr*	*VOC g/hp-hr*	*O_2/CO_2 ppmv*
Performance test results for this engine have not been provided since the 8/9/19 performance test.						
8/8/19	*Yes*	*49*	*1.55*	*0.39*	*-*	*7/90/7/64*
5/21/19	*Yes*	*90*	*0.35*	*0.02*	*0.14*	*7.94/7.36*
4/25/18	*Yes*	*89*	*0.86*	*0.16*	*0.24*	*8.76/7.19*
4/26/17	*Yes*	*70*	*1.12*	*0.09*	*0.25*	*8.59/7.15*

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.

Observations: *Test results for engine E001 Waukesha L5790GL, Serial number 240747 are provided above in Table 14.*

(d) To determine compliance with the NOX mass per unit output emission limitation, convert the concentration of NOX in the engine exhaust using Equation 1 of this section:

Where:

$$ER = (Cd * 1.912 * 10^{-3} * Q * T)/(HP\text{-}hr) \quad (Eq.1)$$

ER = Emission rate of NOX in g/HP-hr.

Cd = Measured NOX concentration in parts per million by volume (ppmv).

1.912×10^{-3} = Conversion constant for ppm NOX to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

Observations: *EPA ran the above calculations with the performance test NOx data provided in all three runs of the 8/8/19, 5/21/19, 4/25/18, and 4/26/17 tests. EPA's calculated NOx g/hp-hr results match those presented in the testing reports.*

(e) To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this section:

$$ER = (Cd * 1.164 * 10^{-3} * Q * T)/(HP\text{-}hr) \quad (Eq.2)$$

Where:

ER = Emission rate of CO in g/HP-hr.

Cd = Measured CO concentration in ppmv.

1.164×10^{-3} = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

Observations: *EPA ran the above calculations with the performance test CO data provided in all three runs of the 8/8/19, 5/21/19, 4/25/18, and 4/26/17 tests. EPA's calculated CO g/hp-hr results match those presented in the testing reports.*

(f) For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section:

$$ER = (Cd * 1.833 * 10^{-3} * Q * T)/(HP\text{-}hr) \quad (Eq.3)$$

Where:

ER = Emission rate of VOC in g/HP-hr.

Cd = VOC concentration measured as propane in ppmv.

1.833×10^{-3} = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

Observations: *EPA ran the above calculations with the performance test VOC data provided in all three runs of the 5/21/19, 4/25/18, 4/26/17 tests. EPA's calculated VOC g/hp-hr results match those presented in the testing reports. VOC data was not provided for the 8/8/19 test.*

(g) If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option … *Hilcorp did not use this option with the 4/25/18 performance testing.*

E. 40 CFR § 60.4245 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?

Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(2) Maintenance conducted on the engine.

(3) *Does not apply to Ute.*

(4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

Observations: *In an email dated 6/28/18, Ms. Deal noted that the permit application submitted on 8/28/12 indicates the engine is subject to NSPS JJJJ. Results of performance testing are shown in Table 14 above. See Section C. above for a discussion on engine maintenance.*

(b) and (e) *Do not apply to Ute.*

(c) Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in §60.4231 must submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section.

(1) Name and address of the owner or operator;

(2) The address of the affected source;

(3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(4) Emission control equipment; and

(5) Fuel used.

Observations: *The 8/28/12 permit application contains the required information.*

(d) Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed. Performance test reports using EPA Method 18, EPA Method 320, or

ASTM D6348-03 (incorporated by reference—see 40 CFR § 60.17) to measure VOC require reporting of all QA/QC data. For Method 18, report results from sections 8.4 and 11.1.1.4; for Method 320, report results from sections 8.6.2, 9.0, and 13.0; and for ASTM D6348-03 report results of all QA/QC procedures in Annexes 1-7.

Observations: *Test result submittal dates for engine E001 Waukesha L5790GL, Serial number 240747 are contained in Table 15. NSPS JJJJ testing has not been conducted since 2019.*

Table 15: NSPS JJJJ test report submittals

Test Conducted	*Report Submitted*
4/23/19	*5/21/19*
4/25/18	*5/1/18*
4/26/17	*5/16/17*

X. Subpart ZZZZ Requirements

Hilcorp has indicated that the engines at Ute are consider remote designated engines in accordance with NESHAP ZZZZ practices.

a. 40 C.F.R. § 63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

i. If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you. *[Note 2b does not apply to Ute's engines.].*

Table 2d - Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

1. For each Non-emergency, non-black start 4SLB and 4SRB remote stationary RICE >500 HP You must meet the following requirement, except during periods of startup:
   a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[7]
   b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and
   c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary

ii. through (e) *do not apply to Ute.*

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in §63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12

months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

Observations: *During previous EPA records reviews, EPA officials have observed the initial and annual remote determinations.*

b. § 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

i. You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in *Table 6* to this subpart.

Table 6 - Continuous Compliance With Emission Limitations, and Other Requirements

9. Existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are *remote stationary RICE*
a. Work or Management practices
i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or
ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

ii. – (d), and (f) *do not apply to Ute.*

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you.

Observations: *In a 2018 EPA inspection record review, Ms. Jennifer Deal indicated that the manufacturer recommended engine maintenance is included in a "Task List" for the engine. Ms. Deal indicated that the catalyst maintenance is also included in the Task Lists. In an email dated 6/6/18, Ms. Deal provided engine and catalyst manufacturer recommended maintenance specifications. In an email dated 6/25/18 Ms. Deal provided example preventative maintenance checklists for the 1-month, 2-month, 4-month, 6-month and 1-year preventative maintenance that had been completed. During the 2022 inspection record review, Mr. Killough provided updated 1-month, 2-month, 4-month, 6-month, and 1-year preventative maintenance checklists. Additionally, Mr. Killough provided a spreadsheet indicating the preventative maintenance that had been conducted since August 2017. The records indicate that the oil and oil filter is inspected or replaced, and the spark plugs and belts inspected or replaced, regularly.*

c. 63.6655 What records must I keep?

i. –(d) and (f) *Do not apply to Ute CS.*

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) and (2) *Do not apply to Ute CS.*

(3) An existing stationary RICE located at an area source of HAP emissions subject to the management practices as shown in Table 2d to this subpart.

Observations: *In a 2018 EPA inspection record review, Ms. Jennifer Deal indicated that the manufacturer recommended engine maintenance is included in a "Task List" for the engine. Ms. Deal indicated that the catalyst maintenance is also included in the Task Lists. In an email dated 6/6/18, Ms. Deal provided engine and catalyst manufacturer recommended maintenance specifications. In an email dated 6/25/18 Ms. Deal provided example preventative maintenance checklists for the 1-month, 2-month, 4-month, 6-month and 1-year preventative maintenance that had been completed. During the 2022 inspection record review, Mr. Killough provided updated 1-month, 2-month, 4-month, 6-month, and 1-year preventative maintenance checklists. Additionally, Mr. Killough provided a spreadsheet indicating the preventative maintenance that had been conducted since August 2017. During a 2018 record review, Ms. Jennifer Deal also shared the initial and annual determinations that the engines are remote.*

d. **§ 63.6675 What definitions apply to this subpart**

Remote stationary RICE means stationary RICE meeting any of the following criteria:
(1) Stationary RICE located in an offshore area … *Does not apply to Ute CS.*

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those

physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25-mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Observations: *EPA has observed the initial and annual remote determinations during previous records reviews.*

XI. Closing meeting

Inspectors left the onsite inspection at 1:04 pm mdt. Ms. Bergl indicated that she would be requesting additional information.

XII. Findings – Areas of Concern and Compliance Assistance

Several instances of permit deviations and areas of concern have been identified through the 6/29/22 inspection and subsequent records review which have been highlighted in this report and are also in this section. Following the record review and drafting of this report, EPA intends to inquire with Hilcorp about missing records and notifications identified during this inspection and will issue an addendum to this report should one be warranted.

Areas of Concern/Permit Deviations:

1. Engine E002 was operating outside of the pressure drop requirements of C.3(d) during the inspection. The pressure drop across the catalyst bed on Engine E002 was observed to be 7.2" H_2O at the time of the inspection; The baseline pressure drop measured during the most recent performance test on June 28, 2022 was 1.8" H_2O. In a follow-up email from Mr. Killough on 9/1/22, Mr. Killough provided the following explanation regarding the deviation: "It should be noted that during the EPA inspections in June 2022, the DP readings on Compressor Skid No. 1 was suspected of high DP readings. Hilcorp personnel immediately inspected the catalyst system thoroughly and replaced the temperature probe (and transmitter) and the new housing was replaced on top of the cooling tower."
2. Since 2018, there appear to have been several deviations of pressure drop data from the established baseline, as well as missing monthly data points. A description of corrective actions taken following deviations was not provided pursuant to Permit condition C.6.e, so it's not clear whether all appropriate actions have been taken when deviations have occurred.
3. Complete temperature measurement data or a description of corrective actions taken pursuant to this permit have not been provided at this time. It's not clear whether all appropriate actions have

been taken when engine pre-catalyst temperature falls below 450 °F.

4. Hilcorp did not submit performance testing notifications in 2017 or 2020 as noted in Table 8.
5. Portable analyzer monitoring results have generally been submitted, except 4th quarter 2019.
6. A notification was not provided for the 3/17/19 LDAR monitoring event.
7. The 2021 annual emissions report has not been received.
8. Mr. Killough provided gas analysis performed since 2015 to demonstrate that the fuel used for the engine is pipeline quality natural gas. Mr. Killough's records indicate that gas analysis on the engine fuel was not performed between 8/1/17 and 5/29/20. In an email dated 6/25/18 Ms. Deal forwarded previous email communication from Adam Eisele, EPA, to Sherrie McGowan, ConocoPhillips, where Mr. Eisele indicated that annual natural gas fuel testing was sufficient. Permit conditions C.3.e and C.6.c may not have been satisfied based on the information provided.
9. Based on the data provided by Mr. Killough in a 9/1/22 email, it appears that Hilcorp is comparing monthly pressure drop readings to the pressure drop measured during the most recent quarterly test, including from quarterly portable analyzer tests. Permit condition C.5.e specifically requires the actions in C.5.e.i – C.5.e.iii be taken "If the pressure drop reading exceeds ± 2 inches of water from the baseline pressure drop established during the most recent performance test", where testing is considered to be a performance test if it meets the requirements outlined in Permit condition C.4.d.(i-v). Quarterly portable analyzer tests do not meet these requirements, and the pressure drop measured during these tests is therefore not an appropriate value to be used in determining deviations of monthly pressure drop readings.

Compliance Assistance:

Hilcorp should ensure:

- All notification **and** reporting requirements of Permit # SMNSR-SU-000054-2019.003 are timely submitted (performance tests, quarterly tests, and LDAR monitoring);

- All testing required in this permit is timely completed, including after engine rebuilds and catalyst change events;

- Corrective actions are taken following each deviation of pressure drop or temperature parameters, and that a record of those actions is maintained;

- And that baseline pressure drop values are only re-established during performance tests which meet the definitions prescribed in Permit # SMNSR-SU-000054-2019.003, specifically for monitoring of pressure drop deviations across the catalyst.

XIII. Picture/IR Video Log

Table 16: Picture Log, 2018 EPA Inspection

Image #	Photographer	Date and Time	Description
RIMG0021.jpg	Laurie Ostrand	5/15/18, 8:19 am	Ute showing the blinded off line of gas to the dehydrator.
RIMG0022.jpg	Laurie Ostrand	5/15/18, 8:21 am	Ute dehydrator reboiler and tank no linger connected.
RIMG0023.jpg	Laurie Ostrand	5/15/18, 8:29 am	Ute backside of engines, catalyst part of muffler, Engine #3 closest and Engine #1 farthest away.
RIMG0024.jpg	Laurie Ostrand	5/15/18, 8:34 am	Ute tanks. Two larger tanks are condensate in back, tank front right is used oil, middle tank is new oil and tank on left is antifreeze.
RIMG0025.jpg	Laurie Ostrand	5/15/18, 9:02 am	Ute, Inlet on left on methanol tank on right.
RIMG0026.jpg	Laurie Ostrand	5/15/18, 9:02 am	Ute compressor building.
RIMG0027.jpg	Laurie Ostrand	5/15/18, 9:05 am	Ute Inlet on right and two dehydrator contactors (not operating).

Attachment 1 Pneumatics at Ute

EQUIP_ID	EQUIP_DESC	MFG_MAKE_MODEL	Pneumatic Controller Function	Pneumatic Controller Type
20044189	Out of Service	MURPHY LS200N	Level	Intermittent Bleed Pneumatic Devices
20044191	In Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20044287	In Service	MURPHY LS200N	Level	Intermittent Bleed Pneumatic Devices
20044306	In Service	MURPHY LS200N	Level	Intermittent Bleed Pneumatic Devices
20044310	Out of Service	MALLARD 3200	Level	Intermittent Bleed Pneumatic Devices
20044311	In Service	FAIRCHILD I/P TFXI7850-403-EN	Electro-pneumatic pressure transducer	Continuous Low-Bleed Pneumatic Devices
20044313	In Service	MURPHY LS200N	Level	Intermittent Bleed Pneumatic Devices
20044314	Out of Service	EMERSON FISHER Series 2900	Liquid level controller	Intermittent Bleed Pneumatic Devices
20044316	In Service	ASCO EF 8314 G301	Solenoid valve	Intermittent Bleed Pneumatic Devices
20044317	Out of Service	ASCO EF 8314 G301	Solenoid valve	Intermittent Bleed Pneumatic Devices
20044289	In Service	EMERSON FISHER 4195A	Pressure	Continuous Low-Bleed Pneumatic Devices
20044290	In Service	ASCO EF 8314 G301	Solenoid valve	Intermittent Bleed Pneumatic Devices
20044291	Out of Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20044293	In Service	WELLMARK/CEMCO 7400 Snaptrol	Electro-pneumatic level controller	Intermittent-bleed/no-bleed Pneumatic Devices
20044294	In Service	MURPHY LS200N	Level	Intermittent Bleed Pneumatic Devices
20044300	In Service	ASCO EF 8314 G301	Solenoid valve	Intermittent Bleed Pneumatic Devices
20044302	Out of Service	MALLARD 3200	Level	Intermittent Bleed Pneumatic Devices
20044303	In Service	EMERSON FISHER 4195A	Pressure	Continuous Low-Bleed Pneumatic Devices
20044304	In Service	KIMRAY 30 HPG-D	Pressure	Intermittent Bleed Pneumatic Devices
20044305	In Service	MURPHY L1200N	Level	Intermittent Bleed Pneumatic Devices
20044264	Out of Service	NORRISEAL 1001A	Level	Intermittent Bleed Pneumatic Devices
20044265	In Service	NORRISEAL 1001A	Level	Intermittent-bleed/no-bleed Pneumatic Devices

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Hilcorp Energy Company (formerly ConocoPhillips Company) [1]
Argenta Compressor Station
Full Compliance Evaluation (FCE)
On-Site Clean Air Act Evaluation

Inspection Date: June 29, 2022

Date of Inspection Report: See date of Manager Signature

EPA Representatives:
Katelyn Bergl
Youn Joo Kim
Colin Lecortz
Alexis North

Tribal Representatives:
David Heermance, Southern Ute Indian Tribe
Andrew Switzer, Southern Ute Indian Tribe
Meredith Breeden, Southern Ute Indian Tribe

Company Representatives
Mitch Killough, Environmental Specialist, Hilcorp
Scott Cooper, Mechanic, Hilcorp
Jake Work, Compression Lead, Hilcorp
Gary Horst, Emission Specialist, Hilcorp
Freddy Proctor, Foreman, Hilcorp

Inspection Report Prepared By: Katelyn Bergl

SCOTT PATEFIELD Digitally signed by SCOTT PATEFIELD
Date: 2022.09.27 07:19:35 -06'00'

Inspection Report Reviewed By: Scott Patefield, Manager
Enforcement and Compliance Assurance Division,
Air and Toxics Enforcement Branch

Applicable Rules:
40 C.F.R. Part 63, Subpart HH—National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities (MACT HH)

40 C.F.R. Part 63, Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities (MACT ZZZZ) (area source)

	40 C.F.R. Part 60, Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015 (compressors) Tribal minor new source review (# SMNSR-SU-000030-2019.002)
Clean Air Act (CAA) Permit	# SMNSR-SU-000030-2019.002, issued October 8, 2020

CAA Permit and Compliance History

1. January 9, 2004, Permit# V-SU-0030-01.00, was issued to ConocoPhillips Company (ConocoPhillips) for the Argenta Compressor Station in accordance with the Title V Operating Permit Program at 40 CFR part 71 (Part 71).
2. February 4, 2010, Federal Compliance Agreement and Final Order (CAFO) between the EPA and ConocoPhillips. (Docket No.: CAA-08-2010-0007)
3. August 30, 2011, application from ConocoPhillips requesting a synthetic minor permit for the Argenta Compressor.
4. April 11, 2014, SMNSR-SU-000030-2011.002 synthetic minor permit issued to ConocoPhillips for the Argenta Compressor Station.
5. October 8, 2020, SMNSR-SU-000030-2019.002 synthetic minor permit issued to Hilcorp Energy for the Argenta Compressor Station.

I. General Source Information

Parent Company name:	Hilcorp Energy Company
Corporate Office Location:	382 Road 3100, Aztec, NM 87410
Facility Name:	Argenta Compressor Station
Facility Location	Latitude 37.12944, Longitude -107.93722
EPA Region:	8
County, State:	La Plata County, Colorado
Tribe & Reservation:	Southern Ute Indian Tribe, Southern Ute Indian Reservation
Responsible Official:	Mitch Killough
SIC Code:	1311, Crude Petroleum and Natural Gas
ICIS Air ID:	SU00000008067U0040
Other Clean Air Act Permits:	None

1 This facility was formally owned and operated by ConocoPhillips and was purchased by Hilcorp Energy on August 1, 2017.

II. Summary of Enforcement Actions

None in the past five (5) years. Although, the permit incorporates a 2/4/10 Federal Compliance Agreement and Final Order (CAFO) between the EPA and ConocoPhillips, see Docket No. CAA-08-2010-0007.

III. Description of Facility

The Argenta Compressor Station (Argenta) dehydrates and compresses natural gas. The natural gas entering the compressor station flows through an inlet separator and mist screens where most of the water is removed. The water produced by this step is transferred to an on-site storage tank. The natural gas is further dried in a glycol dehydration system before leaving the facility.

The facility currently operates four Waukesha L7042GL 4-stroke, lean burn (4SLB) engines with a site rating of 1,330 horsepower (hp) each, a glycol dehydration system capable of processing 75 million standard cubic feet per day (MMscfd), miscellaneous organic liquid storage tanks, a tank heater, and an emergency generator. All combustion units are gas-fired units fueled with natural gas (NG) supplied from 38 surrounding wells.

According to the permit application, the Argenta engines were manufactured prior to July 1, 2007 and, therefore, are not subject to NSPS Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. The permit application also indicates that the Argenta station is an area source of hazardous air pollutants (HAPS) and all the engines commenced construction prior to June 12, 2006. Therefore, the engines are existing affected sources under NESHAP Subpart ZZZZ, Stationary Reciprocating Internal Combustion Engines (RICE), and subject to the emission limits and standards in Subpart ZZZZ.

Additionally, the permit application indicates that the Triethlyene Glycol (TEG) dehydrator's uncontrolled potential benzene emissions are below 1.0 ton per year (tpy); therefore, the Argenta station must only maintain records of this determination under 40 CFR § 63.774(d)(1) in the NESHAP Subpart HH – Oil and Natural Gas Production Facilities.

Table 1: Emission Units and Emission Generating Activities

Unit ID	Description*	Control Equipment
E001 (Engine #1)	Natural Gas Fired Waukesha 4SLB Engine Reciprocating internal combustion engine (RICE) Model No. L 7042 GL - 1330 hp Serial Number: C-60768/1 Manufacture Date: 11/1/97 Rebuild Date: 1/29/14 Installation Date: 4/16/15 Like-Kind replacements: 9/15/2021, S/N C-13404 rebuild w/ C-60768	Miratech Oxidation Catalyst

Unit ID	Description*	Control Equipment
E002 (Engine #2)	Natural Gas Fired Waukesha 4SLB Engine Reciprocating internal combustion engine (RICE) Model No. L 7042 GL - 1330 hp Serial Number: C-13014/1 Manufacture Date: Prior to 07/01/07 (4/26/00) Rebuilt Date: 2/4/13 Installation Date: 6/28/06 <u>Like-Kind replacements:</u> 9/30/2020, S/N C-60768 rebuild w/ C-13014	Miratech Oxidation Catalyst
E003 (Engine #3)	Not Operating Natural Gas Fired Waukesha 4SLBurn Engine Reciprocating internal combustion engine (RICE) Model No. L 7042 GL - 1330 hp Serial Number: C-11671/1 Manufacture Date: Prior to 07/01/07 (11/97) Installation Date: 1/12/05 Rebuilt Date: 8/2010	Johnson Matthey Oxidation Catalyst
E004 (Engine #4)	Not Operating Natural Gas Fired Waukesha 4SLBurn Engine Reciprocating internal combustion engine (RICE) Model No. L 7042 GL - 1330 hp Serial Number: C-11672/1 (this is now E001) Manufacture Date: Prior to 07/01/07 (9/95) Installation Date: 1/12/05 Rebuild date: 7/13 (previously C-13404, E001)	Miratech Oxidation Catalyst
E005	NATCO TEG Dehydration Unit: 4 Units on-site Units 1, 2 in operation, Units 3, 4 shutdown before EPA's 2018 inspection Actual Rate: 14.5 MMscfd Maximum Rate: 45 MMscfd Model No. - Unknown Serial No. – Unknown Installation date 2/15/2002	All had Kimray pumps, model #'s Kimray 10015.
E006	Miscellaneous storage tanks – shown in Table 2	
E007	0.25 MMBtu/hr tank heater	
E008	Generac Backup Power Emergency Generator, 0.31 MMBtu/hr Model No. QTA025	Serial # 4664S4M SDS8705 Generac Generator, Mitsubishi engine

*Hp = horsepower; MMscfd = million standard cubic feet per day; MMBtu/hr = million British thermal units per hour.

Table 2: Insignificant Emission units

Description
LO-1 to LO-6, Lube Oil, 500 gallons each, annual throughput 5,000 gallons each
BGT-1 to BGT-3, Pit Sump Liquids, 5,040 gallons each, annual throughput 20,160 gallons each
BGT-4, Pit Sump Liquids, 2,520 gallons, annual throughput 20,160 gallons
UO-1 to UO-2, Used Oil 2,400 gallons each, annual throughput 24,000 gallons each
AF-1 to AF-2, Antifreeze, 500 gallons each, annual throughput 5,000 gallons each
TEG-1 to TEG-2, Triethylene Glycol, 300 gallons each, annual throughput 3,000 gallons each
PWT-1, Produced Water, 16,800 gallons, annual throughput 168,000 gallons

Table 3: Allowable Emission Proposed in Permit Application (tons per year)

Unit ID	NOx*	CO*	VOC*	PM*	SO_2*	CH_2O*	Benzene	Total HAPs*
E001	23.12	5.5	1.28	0.50	0.73	0.45	0.002	0.525
E002	23.12	5.5	1.28	0.50	0.73	0.45	0.002	0.525
E003	23.12	5.5	1.28	0.50	0.73	0.45	0.002	0.525
E004	23.12	5.5	1.28	0.50	0.73	0.45	0.002	0.525
E005	0.83	0.70	7.18	0.06	0.12	-	1.04	5.52
E006	-	-	0.008	-	-	-	-	-
E007	0.11	0.09	0.006	0.008	0.02	-	-	0.002
E008	0.06	1.11	0.03	0.001	0.001	-	-	-
Total	93.47	24.10	12.36	2.07	3.07	1.79	1.05	7.62

*NOx = nitrogen oxide; CO = carbon monoxide; VOC = volatile organic compound; PM = particulate matter; SO_2 = sulfur dioxide; CH_2O = formaldehyde; HAP = hazardous air pollutant.

IV. General Inspection Observations and Commentary

On June 29, 2022, EPA representative Katelyn Bergl met with Mitch Killough of Hilcorp to conduct a Clean Air Act inspection of Hilcorp's Argenta Compressor Station (Argenta). Ms. Bergl was accompanied by Youn Joo Kim, Colin Lecortz, and Alex North of the U.S. EPA as well as David Heermance, Andrew Switzer and Meredith Breeden of the Southern Ute Indian Tribe (Inspectors). Mr. Killough was accompanied by the Hilcorp company representatives listed on Page 1 of this report. Inspectors travelled together to Argenta and were met on-site by Mr. Killough and his associates. An offsite records review was conducted following the inspection. Please refer to the Hilcorp Sunnyside inspection report for a sample of records provided by Hilcorp for the record review.

V. Opening Meeting

Inspectors arrived at Argenta at 1:55 pm mdt. Ms. Bergl conducted an opening meeting during which the following items were addressed:

- Presented EPA Inspector Credentials to Hilcorp personnel
- Discussed site safety
- Discussed purpose and objectives of the inspection
- Discussed EPA's intention to collect information including photographs and videos
- Discussed EPA's CBI policy
- Indicated Inspectors would like to begin a walk through of the facility to inspect the equipment.

VI. Walk Through Inspection Observations

Hilcorp staff walked Inspectors through the facility, including the compressor station inlet, separation process, compression process, glycol dehydration units and plant outlet. Argenta is supplied by 38 surrounding coal bed methane wells. Gas leaving the facility typically discharges to the Harvest Ignacio natural gas processing plant. Argenta processes roughly 8 MMCFd of conventional gas using two engines. Only Engines #1 and #2 were on-site and operating at the time of the inspection. Argenta produces approximately 2-bbl of produced water per day which is trucked off-site.

EPA noted the onsite engine operating conditions as shown in Table 4.

Table 4: Engine operating conditions, 6/29/22

Engine ID	Engine Serial Number	Catalyst Pressure Drop (inches of water)	Inlet Catalyst Temperature (°F)	Engine RPM	Engine Hours
Engine #1 (E001)	C-60768/1	3.0	677	1011	31765
Engine #2 (E002)	C-13014/1	2.8	698	1038	6502
Engine #3 (E003)	Not Operating and Not on-site				
Engine #4 (E004)	Not Operating and Not on-site				

Ms. Laurie Ostrand of the U.S. EPA conducted a CAA inspection of Argenta in 2018. The conditions observed during Ms. Ostrand's inspection were consistent with the observations made during the June 2022 inspection, and are included below for completeness:

- Hilcorp previously had two engines and a dehydrator up on the hill behind the compressor building but the engines had been removed and the dehydrator, although still on site, had been mothballed;
- There is a standby propane generator up on the hill behind the compressor building;
- Inlet gas comes from nearby Hilcorp wells and the outlet goes to the Harvest Ignacio Gas Plant;
- Pneumatics are No bleed/Low bleed;

Additionally, the images below were taken during Ms. Laurie Ostrand's 2018 inspection. The images reflect current conditions at Argenta and are therefore included in this report.

Image 1: Argenta, Aerial view from Google Maps.	

Image 2: Argenta, Aerial view form google Maps include equipment on hill behind compressor building.	
Image 3: Argenta compressor building. RIMG0010.JPG.	

Image 4: Argenta inlet. RIMG0011.JPG	
Image 5: Argenta produced water tank. RIMG0012.JPG	

Image 6: Argenta Dehydrator #1 on right, Dehydrator #2 on left. RIMG0013.JPG	
Image 7: Argenta Dehydrator #3 on right Dehydrator #4 on left, RIMG0014.jpg	

Image 8: Argenta Dehydrator #1 pump, RIMG0015.JPG	
Image #9: Argenta Dehydrator #2 pump, RIMG0016.JPG.	

Image #10, Argenta, backside of engines showing catalysts. Engines #1 and #2 have catalysts in the muffler (catalysts are lengthwise in muffler). Catalyst in #3, third from right, is a drop-in catalyst (see rectangle drop in point neat building), RIMG0017.JPG;	
Image 11: Argenta Engine #4 catalyst is a banded catalyst (i.e., circular catalyst inside pipe prior to the muffler). RIMG0018.JPG	

Image 12: Argenta Dehydrator #3 pump, RIMG0019.JPG	
Image 13: Argenta Dehydrator #4 pump. RIMG0020.JPG	

VII. Permit Requirements

Note that with respect to this full compliance evaluation, the EPA is generally reviewing data and information from 8/1/17 to 6/30/22.

I. Conditional Permit to Construct

C. Requirements for Engines

1. Construction and Operational Limits

The Permittee shall install and operate emission controls as specified in this permit on four

(4) reciprocating internal combustion engines each meeting the following specifications:

(a) Operated as a 4-stroke lean-burn;
(b) Fired with natural gas; and
(c) Limited to a maximum site rating of 1,330 horsepower (hp).
(a) Only the approved natural gas-fired reciprocating internal combustion engines that are operated and controlled as specified in this permit may be installed and operated.

Observations: *Hilcorp's database indicates that all engines are Waukesha model # L7042GL. See Table 1. The engine information sheet submitted with the Argenta permit application indicates that Waukesha Model L7042GL are "turbocharges and intercooled, twelve- cylinder, lean combustion, four-cycle gas engines." The engine information sheet also indicates that at 1000 rpm the brake horse power is 1289. During the inspection, Engine # 1 and Engine #2 were operating at 1011 and 1030 rpms, respectively.*

2. Emission Limits

(a) Emissions from each engine shall not exceed the following:

(i) NO_X: 5.28 pounds per hour (lb/hr);
(ii) CO: 1.27 lb/hr; and
(iii) CH_2O: 0.15 lb/hr.

(b) Emission limits shall apply at all times, unless otherwise specified in this permit.

Observations: *See Table 7 of this report showing annual stack test results and Table 11 showing quarterly monitoring results.*

3. Control and Operational Requirements

(a) The Permittee shall ensure that the engines are equipped with a catalytic control system capable of reducing the uncontrolled emissions of CO and CH2O to meet the emission limits specified in this permit.

Observations: *Timely engine performance tests submitted for Argenta indicate that the engines are equipped with a catalytic control system capable of reducing uncontrolled emissions of CO and CH_2O to meet the emissions limits specified in Permit condition C.2.a. See Images #10 and #11 which show catalyst location. Information provided by Mr. Killough in a 9/1/22 email further indicated that engines E001 and E002 are equipped with a Miratech ZCS-30X31-12-HSG and Miratech ZXS-RE-Full-354XH catalyst, respectively. The engine catalyst was replaced on E001 on 8/14/21 and on E002 on 8/24/21.*

(b) The Permittee shall install, operate, and maintain temperature sensing devices (i.e., thermocouple or resistance temperature detectors) before the catalytic control system on each engine in order to continuously monitor the exhaust temperature at the inlet of the catalyst bed. Each temperature sensing device shall be calibrated and operated by the

Permittee according to manufacturer specifications or equivalent specifications developed by the Permittee or vendor.

Observations: *During the inspection, Ms. Bergl observed the real-time pre-catalyst inlet temperature being monitored on each engine.*

(c) Except during startups, not to exceed 30 minutes, the engine exhaust temperature of each engine, at the inlet to the catalyst bed, shall be maintained at all times the engines operate with an inlet temperature of at least 450° F and no more than 1,350°F.

Observations: *No start-ups were observed during the inspection. The engine exhaust temperature at the inlet to the catalyst bed was observed during the inspection to be 677 °F on Engine E001 and 698 °F on Engine E002.*

(d) During operation, the pressure drop across the catalyst bed on each engine shall be maintained to within ± 2 inches of water from the baseline pressure drop measured during the most recent performance test. The baseline pressure drop for the catalyst bed shall be determined at 100% ± 10% of the engine load measured during the most recent performance test.

Observations: *During the inspection, Ms. Bergl observed the real-time pressure drop monitored across each engine catalyst. See information below regarding pressure drop readings provided following the inspection.*

(e) The Permittee shall only fire each engine with natural gas. The natural gas shall be pipeline-quality in all respects except that the carbon dioxide (CO2) concentration in the gas is not required to be within pipeline-quality.

Observations: *In an email dated 6/25/18, Ms. Jennifer Deal of Hilcorp indicated that Hilcorp performs annual gas analysis to demonstrate that the fuel used for engines is pipeline quality natural gas. In an email dated 9/1/22, Mr. Killough provided fuel composition analysis conducted at Argenta since 2015.*

(f) The Permittee shall follow, for each engine and its respective catalytic control system, the manufacturer recommended maintenance schedule and procedures or equivalent maintenance schedule and procedures developed by the Permittee or vendor to ensure optimum performance of each engine and its respective catalytic control system.

Observations: *In a 2018 EPA inspection record review, Ms. Deal indicated that the manufacturer recommended engine maintenance is included in a "Task List" for the engine. Ms. Deal indicated that the catalyst maintenance is also included in the Task Lists. In an email dated 6/6/18, Ms. Deal provided engine and catalyst manufacturer recommended maintenance specifications. In an email dated 6/25/18 Ms. Deal provided example preventative maintenance checklists for the 1-month, 2-month, 4-month, 6-month and 1-year*

preventative maintenance that had been completed. During the 2022 inspection record review, Mr. Killough provided updated 1-month, 2-month, 4-month, 6-month, and 1-year preventative maintenance checklists. Additionally, Mr. Killough provided a spreadsheet indicating the preventative maintenance that had been conducted since August 2017.

(g) The Permittee may rebuild an existing permitted engine or replace an existing permitted engine with an engine of the same horsepower rating, and configured to operate in the same manner as the engine being rebuilt or replaced. Any emission limits, requirements, control technologies, testing or other provisions that apply to the permitted engines that are rebuilt or replaced shall also apply to the rebuilt and replaced engines.

Observations: *In an email dated 5/30/18, Ms. Deal indicated that E001 (SN C13404/1) was installed on 4/16/15 and rebuilt on 1/29/14; E002 (SN C—60768/1) was installed on 3/12/13 and rebuilt on 2/4/13); E003 (SN C11671/1) was installed on 1/12/05 and has not been rebuilt; and E004 (SN C-11672/1) was installed on 1/12/05 and has not been rebuilt. However, information recorded on engine tags during the inspection indicate that E003 was rebuilt on 8/20/10 and E004 in 7/2014. Mr. Killough provided engine rebuild data since 2017 in an email dated 9/1/22. The information provided by Mr. Killough is included in Table 5 below.*

Table 5: Engine Installation, Rebuild and Replacement Information

Initial Compressor Install Date	Engine Manufacture Date	Engine Install Date	Engine Make, Model, and Manufacturer	Engine Serial No.	Maximum Engine Site Rating (hp)	Engine Rebuild and Replacement Events, August 1, 2017 – June 30, 2022 as reported by Hilcorp
3/12/2013	11/1/1997	9/15/2021	PKG,CMP,WAUKESHA,L7042GL,ARIEL,JGK-4 (Skid #1)	C-60768	1330	Like-kind engine swap occurred in September 2021. Engine with serial No. C-13404 was removed and replaced with C-60768. Cost of engine re-build did not exceed the 50% threshold when comparing the cost of the re-build to the cost of an entirely new engine.
1/12/2005	4/26/2000	9/30/2020	PKG,CMP,WAUKESHA,L7042GL,ARIEL,JGK-4 (Skid #2)	C-13014	1330	Like-kind engine swap occurred in September 2020. Existing engine with serial No. C-60768 was replaced with C-13014. Cost of engine re-build did not exceed the 50% threshold when comparing the cost of the re-build to the cost of an entirely new engine.

(h) The Permittee may resume operation without the catalytic control system during an engine break-in period, not to exceed 200 operating hours, for rebuilt and replaced engines.

Observations: *In an email dated 9/1/22, Mr. Killough described Hilcorp's engine break-in protocol: "Per engine swings, Hilcorp adheres to a 24-hour run period without the catalysts*

following the start-up. This is to ensure the pickling agent Waukesha Pearce puts in the replacement engines for weatherproofing is completely gone. In addition, this period is to ensure that the engines have not developed any other issues in transit that may damage the catalysts."

4. Performance Testing Requirements

(a) Performance tests shall be conducted on each engine for measuring NO_X, CO, and CH_2O emissions to demonstrate compliance with each emission limitation in this permit. The performance tests shall be conducted in accordance with appropriate reference methods specified in 40 CFR Part 63, Appendix A and 40 CFR Part 60, Appendix A, or an EPA approved American Society for Testing and Materials (ASTM) method. The Permittee may submit to the EPA a written request for approval of an alternate test method, but shall only use that alternate test method after obtaining approval from the EPA.

(i) The initial performance test for each engine shall be conducted within 90 calendar days of startup of a new engine.

(ii) Subsequent performance tests for CH_2O emissions shall be conducted within 12 months of the most recent performance test.

(iii) Performance tests shall be conducted within 90 calendar days of each catalyst replacement.

(iv) Performance tests shall be conducted within 90 calendar days of startup of all rebuilt and replaced engines.

Observations: *See Table 7, below, for annual performance tests results. Engine installation date and rebuild date are provided in the* ***Observations*** *under Section C.3(g), Table 5, above. Performance tests were conducted within 90 days of all engine rebuilds and catalyst replacements.*

(b) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, or processes or operational parameters the day of the engine testing or during the engine testing. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid. Artificially increasing an engine load to meet testing requirements is not considered engine tuning or adjustments.

Observations: *The EPA has not been present during testing and did not inquire about engine tuning or adjustments being made during testing.*

(c) The Permittee shall not abort any engine tests that demonstrate non-compliance with the emission limits in this permit.

Observations: *See discussion immediately above.*

(d) All performance tests conducted on each engine shall meet the following requirements:

(i) The pressure drop across each catalyst bed and the inlet temperature to each catalyst bed shall be measured and recorded at least once during each performance tests.

(ii) All tests for NO_X and CO emissions shall be performed simultaneously.

(iii) All tests shall be performed at a maximum operating rate (90% to 110% of the maximum achievable engine load available on the day of the test). The Permittee may submit to the EPA a written request for approval of an alternate load level for testing, but shall only test at that alternate load level after obtaining written approval from the EPA.

(iv) During each test run, data shall be collected on all parameters necessary to document how emissions were measured and calculated (such as test run length, minimum sample volume, volumetric flow rate, moisture and oxygen corrections, etc.).

(v) Each test shall consist of at least three 1-hour or longer valid test runs. Emission results shall be reported as the arithmetic average of all valid test runs and shall be in terms of the emission limits in this permit.

(vi) Performance test plans shall be submitted to the EPA for approval 60 calendar days prior to the date the test is planned.

(vii) Performance test plans that have already been approved by the EPA for the emission units approved in this permit may be used in lieu of new test plans unless the EPA requires the submittal and approval of new test plans. The Permittee may submit new plans for EPA approval at any time.

Observations: *The test plan was submitted on 4/13/16 and EPA approved it on 7/12/16. The 9/8/16 test report indicates that there was an addendum to the test protocol which was submitted on 9/6/16. The addendum is adding Method 323 for formaldehyde testing. The 4/13/16 and 9/8/16 documents indicate that the test methods listed in Table 6 be used during performance tests. See Table 7 for annual performance test results.*

Table 6: Performance Test Methods Followed

Parameter	*Synopses of operational test methods*
Flow Rate	*EPA Method 19*
H_2CO, NOx CO, O_2 and CO_2	*ASTM D6348-03, Method 323*
O_2 and CO_2	*EPA Method 3a*
NOx	*Method 7e*
CO	*Method 10*

Table 7: Annual Performance test results

Test Date	*Engine Unit Number*	*Serial #*	*% Load*	*Test length/ engine*	*NOx lbs/hr*	*CO lbs/hr*	*H_2CO lbs/hr*	*Pres Drop*	*Inlet Cat Temp*
8/24/21	*E001*	*C-13404/1*	*84*	*3 1-hour*	*1.81*	*0.08*	*0*	*3.6*	*713*

	E002	*C-13014/1*	*84*		*1.5*	*0.03*	*0.03*	*3.6*	*725*
8/5/20	*E001*	*C-13404/1*	*87*	*3 1-hour*	*2.13*	*0.09*	*0.07*	*3.03*	*728*
	E002	*C-60768/1*	*90*		*2.85*	*0.02*	*0.04*	*2*	*702*
8/6/19	*E001*	*C-13404/1*	*93*	*3 1-hour*	*2.32*	*0.14*	*0.05*	*1.0*	*673*
	E002	*C-60768/1*	*83.6*		*1.74*	*0.05*	*0.03*	*1.3*	*651*
10/9/18	*E001*	*C-13404/1*	*79*	*3 1-hour*	*1.64*	*0.34*	*0.09*	*1.9*	*650*
	E002	*C-60768/1*	*84*		*3.09*	*0.38*	*0.07*	*2.5*	*616*
	E003	*C-11671/1*	*78*		*1.47*	*0.38*	*0.08*	*7.3*	*644*
9/20/17	*E001*	*C-13404/1*	*83.0*	*3 1-hour*	*3.68*	*0.18*	*0.084*	*3.4*	*699*
	E002	*C-60768/1*	*86.7*		*2.77*	*0.13*	*0.142*	*4.8*	*712*
	E003	*C-11671/1*	*86.6*		*3.69*	*0.40*	*0.130*	*2.1*	*655*
	E005	*C-11672/1*	*Not tested*						

(viii) The test plans shall include and address the following elements:

(A) Purpose of the test;
(B) Engines and catalytic control systems to be tested;
(C) Expected engine operating rate(s) during the test;
(D) Sampling and analysis procedures (sampling locations, test methods, laboratory identification);
(E) Quality assurance plan (calibration procedures and frequency, sample recovery and field documentation, chain of custody procedures); and
(F) Data processing and reporting (description of data handling and quality control procedures, report content).

Observations: *On 4/13/16 ConocoPhillips submitted the test plan and monitoring protocol for Argenta. Generally, the test plan and monitoring protocol contain the above information. The 4/13/16 document indicates that historically performance testing has been conducted in the 3rd quarter and portable monitoring in 1st, 2nd and 4th quarter.*

(e) The Permittee shall notify the EPA at least 30 calendar days prior to scheduled performance testing. The Permittee shall notify the EPA at least 1 week prior to scheduled performance testing if the testing cannot be performed.

Observations: ***Hilcorp did not submit performance testing notifications in 2017 or 2020 as noted in Table 8 below.***

Table 8: Performance Testing - Notification, Monitoring, and Reporting Dates.

Notification Date	*Test date*	*Report Received Date*
8/8/22	*N/A*	*N/A*
7/15/21	*8/24/21*	***11/24/21***
No notification	*8/5/20*	*9/24/20*
6/18/19	*8/6/19*	*8/27/19*
8/10/2018	*9/4/2018*	*10/9/18*

No notification	*9/20/17*	***11/31/17***

(f) If a permitted engine is not operating, the Permittee does not need to start up the engine solely to conduct a performance test. The Permittee may conduct the performance test when the engine is started up again.

Observations: *Annual performance tests have been conducted on all operating engines.*

5. Monitoring Requirements

(a) The Permittee shall continuously monitor the engine exhaust temperature of each engine at the inlet to the catalyst bed.

Observations: *During the inspection, Ms. Bergl observed the real-time pre-catalyst temperature being monitored on both engines. Additionally, in an email dated 9/1/22, Mr. Killough provided the catalyst inlet temperature data permit deviations recorded between 1/1/17 and 6/30/22 at both operating engines. At this time, only temperature deviations have been provided to the EPA.* ***Complete temperature measurement data or a description of corrective actions taken pursuant to this permit have not been provided at this time.***

(b) Except during startups, not to exceed 30 minutes, if the engine's exhaust temperature at the inlet to the catalyst bed deviates from the acceptable ranges specified in this permit then the following actions shall be taken. The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit.

(i) Within 24 hours of determining a deviation of the engine exhaust temperature at the inlet to the catalyst bed, the Permittee shall investigate. The investigation shall include testing the temperature sensing device, inspecting the engine for performance problems and assessing the catalytic control system for possible damage that could affect catalytic system effectiveness (including, but not limited to, catalyst housing damage, and fouled, destroyed or poisoned catalyst).

(ii) If the engine exhaust temperature at the inlet to the catalyst bed can be corrected by following the engine manufacturer recommended procedures or equivalent procedures developed by the Permittee or vendor, and the catalytic control system has not been damaged, then the Permittee shall correct the engine exhaust temperature at the inlet to the catalyst bed within 24 hours of inspecting the engine and catalytic control system.

(iii) If the engine exhaust temperature at the inlet to the catalyst bed cannot be corrected using the engine manufacturer recommended procedures or equivalent procedures developed by the Permittee or vendor, or the catalytic control system has been damaged, then the affected engine shall cease operating immediately and shall not be returned to routine service until the following has been met:

(A) The engine exhaust temperature at the inlet to the catalyst bed is measured and found to be within the acceptable temperature range for that engine; and

(B) The catalytic control system has been repaired or replaced, if necessary.

Observations: *See discussion above regarding review of the temperature data provided after the inspection.* ***It's not clear what actions have been taken to address instances when temperature was out of range, as that information was not included in the temperature deviation spreadsheet provided on 9/1/22.***

(c) The Permittee shall monitor the pressure drop across the catalyst bed on each engine every 30 days using pressure sensing devices before and after the catalyst bed to obtain a direct reading of the pressure drop (also referred to as the differential pressure). *[Note to Permittee: Differential pressure measurements, in general, are used to show the pressure across the filter elements. This information will determine when the elements of the catalyst bed are fouling, blocked or blown out and thus require cleaning or replacement.]*

Observations: *During the inspection, Ms. Bergl observed the real-time pressure drop being monitored across the catalyst on all operating engines. Additionally, in an email dated 9/1/22, Mr. Killough provided a spreadsheet containing pressure drop readings for all operating engines from 1/1/17 to 6/30/22. Based on the data submitted, multiple readings per day are recorded and then a daily average pressure drop reading is calculated. From the daily averages, a monthly pressure drop reading is calculated.*

(d) The Permittee shall perform the first measurement of the pressure drop across the catalyst bed on each engine no more than 30 days from the date of the initial performance test. Thereafter, the Permittee shall measure the pressure drop across the catalyst bed, at a minimum, every 30 days. Subsequent performance tests, as required in this permit, can be used to meet the periodic pressure drop monitoring requirements provided it occurs within the 30-day window. The pressure drop reading can be a one-time measurement on that day, the average of performance test runs conducted on that day, or an average of all the measurements taken on that day if continuous readings are taken.

Observations: *See discussion immediately above.*

(e) If the pressure drop reading exceeds ± 2 inches of water from the baseline pressure drop established during the most recent performance test, then the following actions shall be taken. The Permittee's completion of any or all of these actions shall not constitute, nor qualify as, an exemption from any other emission limits in this permit:

(i) Within 24 hours of determining a deviation of the pressure drop across the catalyst bed, the Permittee shall investigate. The investigation shall include testing the pressure transducers and assessing the catalytic control system for possible damage that could affect catalytic system effectiveness (including, but not limited to, catalyst housing damage, and plugged, fouled, destroyed or poisoned catalyst).

(ii) If the pressure drop across the catalyst bed can be corrected by following the catalytic control system manufacturer and/or vendor recommended procedures or equivalent procedures developed by the Permittee or vendor, and the catalytic control system has not been damaged, then the Permittee shall correct the problem within 24 hours of inspecting the catalytic control system.

(iii) If the pressure drop across the catalyst bed cannot be corrected using the catalytic control system manufacturer recommended procedures or equivalent procedures developed by the Permittee or vendor, or the catalytic control system is damaged, then the Permittee shall do one of the following:

(A) Conduct a performance test within 90 calendar days, as specified in this permit, to ensure that the NO_X, CO, and CH_2O emission limits are being met and to re-establish the pressure drop across the catalyst bed. The Permittee shall measure CO and NO_X emissions using a portable analyzer and a monitoring protocol approved by the EPA to establish a new temporary pressure drop baseline until a performance test can be scheduled and completed; or

(B) Cease operating the affected engine immediately. The engine shall not be returned to routine service until the pressure drop is measured and found to be within the acceptable pressure range for that engine as determined from the most recent performance test. Corrective action may include removal and cleaning of the catalyst or replacement of the catalyst.

Observations: *As indicated above, pressure drop readings from 1/1/17 to 6/30/22 were provided. The permit requires a comparison of the pressure drop to the baseline pressure drop established during the most recent performance test. The pressure drop data recorded during performance testing is provided in Table 7, above. Table 9 and 10 provide monthly pressure drop data as compared to the baseline pressure drop established during the most recent performance test. Baseline pressure drop values were re-established during annual performance tests as well as after engine rebuilds and catalyst changes excepted as noted above for the 9/20 Engine E002 rebuild event.*

Based on the data provided by Mr. Killough in a 9/1/22 email, it appears that Hilcorp is comparing monthly pressure drop readings to the pressure drop measured during the most recent quarterly tests, including from quarterly portable analyzer tests. Permit condition C.5.e specifically requires the actions in C.5.e.i – C.5.e.iii be taken "If the pressure drop reading exceeds ± 2 inches of water from the baseline pressure drop established during the most recent performance test", where testing is considered to be a performance test if it meets the requirements outlined in Permit condition C.4.d.(i-v). Quarterly portable analyzer tests do not meet these requirements, and the pressure drop measured during these tests is therefore not an appropriate value to be used in determining deviations of monthly pressure drop readings.

Since 2018, there appear to have been several deviations of pressure drop data from the established baseline, as well as missing monthly data points as indicated in Tables 9 and

10. A description of corrective actions taken following each deviation was not provided, so it's not clear whether all appropriate actions have been taken when deviations have occurred.

The 2017, 2018 and 2019 annual deviation reports indicate that the "pressure drop across the catalyst bed was not always maintained within ± 2 inches of water during the reporting period. Fluctuations in pressure drop across the catalysts can occur due to changes in engine operating load." The deviation reports indicate that the following corrective actions or preventative measures were taken: "No corrective actions required. Investigate each month and verify with load calculations, monthly portable analyzer screenings are conducted to verify catalyst performance, and quarterly performance tests consistently demonstrate emission limits are being met." Additionally, the 2021 deviation report notes that pressure drop was not monitored on E002 from 10/1 to 10/31, >30 days. Monthly Pressure drop measurements deviated more than 2 inches of water from the baseline pressure drop as indicated in Tables 9 and 10.

Table 9: Engine E001 monthly pressure drop readings.

	2018		2019		2020		2021		2022	
Month	Monthly Reading	Baseline	Monthly Reading	Baseline	Monthly Reading	Baseline	Monthly Reading	Baseline	Monthly Reading	Baseline
Jan	3.6	3.37	3.6	1.8	**3.6**	1.0	3.7	3.03	3.5	4.1
Feb	3.6	3.37	3.6	1.8	**3.2**	1.0	3.6	3.03	3.6	4.1
Mar	3.6	3.37	3.6	1.8	**3.1**	1.0	3.7	3.03	3.6	4.1
Apr	3.6	3.37	3.6	1.8	**3.3**	1.0	3.6	3.03	3.6	4.1
May	3.6	3.37	3.6	1.8	**3.3**	1.0	3.6	3.03	3.6	4.1
Jun	3.6	3.37	3.6	1.8	**3.3**	1.0	3.6	3.03	3.6	4.1
Jul	3.6	3.37	3.6	1.8	**3.6**	1.0	3.6	3.03	3.3	4.1
Aug	3.6	3.37	**3.6**	1.0	3.5	3.03	3.6	3.03	3.5	4.1
Sep	3.6	1.8	2.0	1.0	3.6	3.03	5.1	4.1		
Oct	3.6	1.8	1.8	1.0	3.6	3.03	3.4	4.1		
Nov	3.6	1.8	3.0	1.0	3.6	3.03	3.6	4.1		
Dec	**Frozen**	1.8	2.8	1.0	3.7	3.03	3.5	4.1		

Table 10: Engine E002 monthly pressure drop readings.

	2018		2019		2020		2021		2022	
Month	Monthly Reading	Baseline	Monthly Reading	Baseline	Monthly Reading	Baseline	Monthly Reading	Baseline	Monthly Reading	Baseline
Jan	3.5	4.9	3.5	2.6	3.2	1.3	3.5	3.5	3.5	3.6
Feb	3.5	4.9	3.5	2.6	3.1	1.3	3.5	3.5	3.5	3.6
Mar	3.5	4.9	3.5	2.6	3.1	1.3	3.5	3.5	3.5	3.6
Apr	3.5	4.9	3.5	2.6	3.2	1.3	3.7	3.5	3.5	3.6

May	*3.5*	*4.9*	*3.5*	*2.6*	***3.4***	*1.3*	*3.5*	*3.5*	*3.5*	*3.6*
Jun	*3.5*	*4.9*	*3.5*	*2.6*	***3.6***	*1.3*	*3.6*	*3.5*	*3.5*	*3.6*
Jul	*3.5*	*4.9*	*3.5*	*2.6*	***3.7***	*1.3*	*3.6*	*3.5*	*3.0*	*3.6*
Aug	*3.5*	*4.9*	***3.5***	*1.3*	*3.5*	*2.0*	*4.0*	*3.6*	*3.2*	*3.6*
Sep	*3.5*	*2.6*	*1.5*	*1.3*	*Engine Swing*	*2.0*	*4.0*	*3.6*		
Oct	*3.5*	*2.6*	*1.6*	*1.3*	*3.5*	*3.5*	***missed***	*3.6*		
Nov	***NR***	*2.6*	*2.9*	*1.3*	*3.5*	*3.5*	*4.0*	*3.6*		
Dec	***Frozen***	*2.6*	*3.0*	*1.3*	*3.5*	*3.5*	*3.6*	*3.6*		

(f) The Permittee shall measure NO_X and CO emissions from each engine at least quarterly to demonstrate compliance with each engine's emission limits in this permit. To meet this requirement, the Permittee shall:

(i) Measure NO_X and CO emissions at the normal operating load using a portable analyzer and a monitoring protocol approved by the EPA or conduct a performance test as specified in this permit;

(ii) Measure the NO_X and CO emissions simultaneously; and

(iii) Commence monitoring for NO_X and CO emissions within 6 months of the Permittee's submittal of the initial performance test results for NO_X and CO emissions to the EPA.

Observations: *Portable analyzer monitoring results have generally been submitted. See results in Table 11, below. Quarterly monitoring occurs in the 1st, 2nd, and 4th quarters and annual 3 1-hour performance tests are conducted in the 3rd quarter of the year.*

Quarterly portable analyzer monitoring results for E001 and E002 were not sent to EPA for 4th quarter 2019.

Table 11: Quarterly portable analyzer monitoring results

Test Date	*Engine Unit Number*	*Serial #*	*% Load*	*Test length/ engine*	*NOx lbs/hr*	*CO lbs/hr*	*Pres Drop*	*Inlet Cat Temp*
6/2822	*E001*	*C-60768/1*	*74*	*1-21 minute*	*1.03*	*0.38*	*1.5*	*687*
	E002	*C-13014/1*	*66*		*0.66*	*0.23*	*3.1*	*697*
3/7/22	*E001*	*C-60768/1*	*73*	*1-21 minute*	*1.05*	*0.35*	*1*	*686*
	E002	*C-13014/1*	*73*		*1.05*	*0.24*	*0.9*	*691*
11/16/21	*E001*	*C-60768/1*	*87*	*1-21 minute*	*1.35*	*0.12*	*4.1*	*690*
	E002	*C-13014/1*	*60.7*		*0.62*	*0.20*	*3.5*	*700*
5/5/21	*E001*	*C-13404/1*	*83*	*1-21 minute*	*1.29*	*0.54*	*3.6*	*706*
	E002	*C-13014/1*	*89*		*1.02*	*1.08*	*3.5*	*735*
2/16/21	*E001*	*C-13404/1*	*81*	*1-21 minute*	*1.51*	*0.34*	*3.6*	*714*
	E002	*C-13014/1*	*85*		*0.8*	*0.71*	*3.5*	*713*
11/10/20	*E001*	*C-13404/1*	*73*	*1-21 minute*	*1.37*	*0.32*	*3.6*	*715*
	E002	*C-13014/1*	*91*		*2.26*	*0.11*	*3.5*	*714*
4/28/20	*E001*	*C-13404/1*	*52*	*1-21 minute*	*1.06*	*0.38*	*3.3*	*706*
	E002	*C-60768/1*	*56*		*0.70*	*0.33*	*1.9*	*697*

3/18/20	*E001*	*C-13404/1*	*59*	*1-21 minute*	*1.39*	*0.37*	*1.7*	*707*
	E002	*C-60768/1*	*57*		*0.97*	*0.30*	*1.9*	*683*
Q4 19	*E001*	*C-13404/1*	***No test***					
	E002	*C-60768/1*	***No test***					
5/6/19	*E001*	*C-13404/1*	*72*	*1-21 minute*	*2.33*	*0.43*	*0.8*	*640*
	E002	*C-60768/1*	*73*		*2.39*	*0.26*	*0.2*	*630*
3/6/19	*E001*	*C-13404/1*	*65*	*1-21 minute*	*1.95*	*0.42*	*10.2*	*646*
	E002	*C-60768/1*	*66*		*2.06*	*0.30*	*0.7*	*625*
12/3/18	*E001*	*C-13404/1*	*70*	*1-21 minute*	*1.48*	*0.37*	***NR***	*643*
	E002	*C-60768/1*	*67*		*1.84*	*0.33*	***NR***	*643*
6/5/18	*E001*	*C-13404/1*	*70*	*1-21 minute*	*3.38*	*0.43*	*3.2*	*655*
	E002	*C-60768/1*	*70*		*1.64*	*0.25*	*1.6*	*637*
	E003	*C-11671/1*	*70*		*1.78*	*0.25*	*6.5*	*630*
3/6/18	*E001*	*C-13404/1*	*70*	*1 -21-minute*	*2.55*	*0.41*	*3.6*	*642*
	E002	*C-60768/1*	*70*		*1.35*	*0.18*	*3.5*	*635*
	E003	*C-11671/1*	*70*		*2.09*	*0.50*	*1.4*	*622*
	E005	*C-11672/1*	*Not tested*					
12/6/17	*E001*	*C-13404/1*	*70**	*1 -21-minute*	*2.57*	*0.32*	*3.6*	*642*
	E002	*C-60768/1*	*70**		*1.62*	*0.18*	*3.5*	*634*
	E003	*C-11671/1*	*Not tested*					
	E005	*C-11672/1*	*Not tested*					
6/6/17	*E001*	*C-13404/1*	*70*	*1 -21-minute*	*1.89*	*0.49*	*3.6*	*637*
	E002	*C-60768/1*	*70*		*1.12*	*0.12*	*3.5*	*633*
	E003	*C-11671/1*	*60*		*1.52*	*0.52*	*1.5*	*616*
	E005	*C-11672/1*	*Not tested since*					

(g) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, or processes or operational parameters on the day of or during measurements. Any such tuning or adjustments may result in a determination by the EPA that the result is invalid. Artificially increasing an engine load to meet the testing requirements is not considered engine tuning or adjustments.

Observations: *The EPA has not been present during testing and did not inquire about engine tuning or adjustments being made during testing.*

(h) For any one (1) engine: If the results of 2 consecutive quarterly portable analyzer measurements demonstrate compliance with the NO_X and CO emission limits, the required monitoring frequency may change from quarterly to semi-annually.

Observations: *On 1/30/18 Hilcorp submitted test results and portable monitoring results from the third and fourth quarter 2017. Hilcorp's 1/30/18 letter indicates that they are going to go to semiannual monitoring since they had two quarters of data showing compliance with NOx and CO limits. However, Hilcorp generally follows quarterly testing frequency at Argenta.*

(i) For any one (1) engine: If the results of any subsequent portable analyzer measurements demonstrate non-compliance with the NO_X or CO emission limits, required monitoring frequency shall change from semi-annually to quarterly.

Observations: *To date, no quarterly test results have shown non-compliance with emission limits.*

(j) The Permittee shall submit portable analyzer specifications and monitoring protocols for NO_X and CO to the EPA at the following address for approval at least 45 calendar days prior to the date of initial portable analyzer monitoring:

U.S. Environmental Protection Agency, Region 8
Office of Enforcement, Compliance & Environmental Justice Air Toxics
and Technical Enforcement Program, 8ENF-AT 1595 Wynkoop Street
Denver, Colorado 80202

Observations: *A portable analyzer protocol was submitted to EPA on 4/13/16. EPA approved the protocol on 7/12/16. The 4/13/16 submittal indicates that they are using the Wyoming Portable Analyzer Protocol for testing.*

(k) Portable analyzer specifications and monitoring protocols that have already been approved by the EPA for the emission units approved in this permit may be used in lieu of new protocols unless the EPA requires the submittal and approval of a new protocol. The Permittee may submit a new protocol for EPA approval at any time.

(l) The Permittee is not required to conduct emissions monitoring and parametric monitoring of exhaust temperature and catalyst differential pressure on engines that have not operated during the monitoring period. The Permittee shall certify that the engine(s) did not operate during the monitoring period in the annual report specified in this permit.

Observations: *The annual emissions report identifies the operating hours of the engines.*

6. Recordkeeping Requirements

(a) Records shall be kept of manufacturer and/or vendor specifications and maintenance requirements developed by the manufacturer, vendor, or Permittee for each engine, catalytic control system, temperature-sensing device, and pressure- measuring device.

Observations: *In a 2018 EPA inspection record review, Ms. Deal indicated that the manufacturer recommended engine maintenance is included in a "Task List" for the engine. Ms. Deal indicated that the catalyst maintenance is also included in the Task Lists. In an email dated 6/6/18, Ms. Deal provided engine and catalyst manufacturer recommended maintenance specifications. In an email dated 6/25/18 Ms. Deal provided example preventative maintenance checklists for the 1-month, 2-month, 4-month, 6-month*

and 1-year preventative maintenance that had been completed. During the 2022 inspection record review, Mr. Killough provided updated 1-month, 2-month, 4-month, 6-month, and 1-year preventative maintenance checklists. Additionally, Mr. Killough provided a spreadsheet indicating the preventative maintenance that had been conducted since August 2017.

(b) Records shall be kept of all calibration and maintenance conducted for each engine, catalytic control system, temperature-sensing device, and pressure-measuring device.

Observations: *In an email dated 9/1/22 Mr. Killough provided example preventative maintenance checklists for the 1-month, 2-month, 4-month, 6-month and 1-year preventative maintenance. The 6-month maintenance was specific to the catalyst. Additionally, Mr. Killough provided a spreadsheet indicating when preventative maintenance, including maintenance on the catalyst, had been conducted from 8/1/2017-6/30/2022.*

(c) Records shall be kept that are sufficient to demonstrate that the fuel used for each engine is pipeline quality natural gas in all respects, with the exception of CO_2 concentrations.

Observations: *Mr. Killough provided gas analysis performed annually since 2015 to demonstrate that the fuel used for the engine is pipeline quality natural gas. In an email dated 6/25/18 Ms. Deal forwarded previous email communication from Adam Eisele, EPA to Sherrie McGowan, ConocoPhillips, where Mr. Eisele indicated that annual natural gas fuel testing was sufficient.*

(d) Records shall be kept of all temperature measurements required in this permit, as well as a description of any corrective actions taken pursuant to this permit.

Observations: *At this time, only temperature deviations have been provided to the EPA.* ***Complete temperature measurement data or a description of corrective actions taken pursuant to this permit have not been provided at this time.***

(e) Records shall be kept of all pressure drop measurements required in this permit, as well as a description of any corrective actions taken pursuant to this permit.

Observations: *Pressure drop measurement data was provided upon request.* ***Since 2018, there appear to have been several deviations of pressure drop data from the established baseline, as well as missing monthly data points. A description of corrective actions taken following deviations was not provided.***

(f) Records shall be kept of all required testing and monitoring in this permit. The records shall include the following:

(i) The date, place, and time of sampling or measurements;
(ii) The date(s) analyses were performed;

(iii) The company or entity that performed the analyses;
(iv) The analytical techniques or methods used;
(v) The results of such analyses or measurements; and
(vi) The operating conditions as existing at the time of sampling or measurement.

Observations: *The performance test reports are submitted to EPA within required timeframes, except as noted above. Quarterly monitoring reports have also been submitted to EPA.*

(g) Records shall be kept of all catalyst replacements or repairs, engine rebuilds and engine replacements.

Observations: *Mr. Killough provided this information in a 9/1/22 email.*

(h) Records shall be kept of each rebuilt or replaced engine break-in period, pursuant to the requirements of this permit, where an existing engine that has been rebuilt or replaced resumes operation without the catalyst control system, for a period not to exceed 200 operating hours.

Observations: *In an email dated 9/1/22, Mr. Killough described Hilcorp's engine break-in protocol: "Per engine swings, Hilcorp adheres to a 24-hour run period without the catalysts following the start-up. This is to ensure the pickling agent Waukesha Pearce puts in the replacement engines for weatherproofing is completely gone. In addition, this period is to ensure that the engines have not developed any other issues in transit that may damage the catalysts."*

(i) Records shall be kept of each time any engine is shut down due to a deviation of the inlet temperature to the catalyst bed or pressure drop across the catalyst bed. The Permittee shall include in the record the cause of the problem, the corrective action taken, and the timeframe for bringing the pressure drop and inlet temperature range into compliance.

Observations: *In a 9/1/22 email, Mr. Killough stated, in regards to this requirement, "In the event that a catalyst reading is shown to be out of compliance, Hilcorp personnel are alerted and required to inspect the instrumentation for any possible plugs that need to be addressed. If the alarm is determined to be caused by a 3rd party upset (or scheduled PM), weather event (i.e. freezing, rainfall), or false alarm, the unit will continue to run as long as the inlet catalyst temperature range and DP readings are compliant. However, for all other events, the catalyst is inspected completely for any issues or concerns. If a replacement is needed, a work order is generated and carried out immediately." In an email dated 6/25/18, Ms. Deal indicated that to their "knowledge a permitted engine has never been shut down due to deviations of the inlet temperature or catalyst bed or pressure drop across the catalyst bed."*

B. Requirements for Tri-Ethylene Glycol Dehydration Process

1. Construction and Operational Limits

(a) The following tri-ethylene glycol dehydration system is approved for installation and operation at the facility:

(i) Four (4) units; each limited to a maximum natural gas processing capacity of 10 MMscfd and a 0.375 MMBtu/hr natural gas fired tri-ethylene glycol reboiler; and
(ii) One (1) unit limited to a maximum natural gas processing capacity of 35 MMscfd, and a 1.5 MMBtu/hr natural gas fired tri-ethylene glycol reboiler, equipped with a flash tank whose emissions are used as fuel for the reboiler.

Observations: *There are four dehydrator units onsite. Mr. Cooper indicated that each engine has its own dehydrator; i.e., Engines 1 and 2 were in operation, and dehydrator units 1 and 2 were servicing those engines. Dehydrator units 3 and 4 have not been operated for several years, at least since EPA's last 2018 inspection. During the inspection, Ms. Bergl observed the following operating conditions at the dehydrator units:*

Table 12: TEG Dehydrator Operating Conditions, 6/29/22

Dehydrator Unit	*Boiler Temperature (°F)*	*Glycol Inlet Temperature (°F)*	*Tower Temperature (°F)*	*Stroke Count*
Unit #1	*379*	*115*	*103*	*26/minute*
Unit #2	*372*	*109*	*109*	*13/minute*

(b) The Permittee shall process no more than 45 MMscfd of natural gas.

Observations: *See discussion below.*

(c) Only dehydration units that are operated and controlled as specified in this permit may be installed and operated.

2. Monitoring and Record Keeping Requirements

The Permittee shall monitor and record the total natural gas processed through the dehydration system, in MMscfd, on a monthly basis.

Observations: *In an email dated 9/1/22, Mr. Killough provided the monthly facility throughput (and therefore also dehydrator throughput) records from 8/1/17 through 6/30/22. Mr. Cooper indicated that the gas is usually split between two operating dehydrators. According to the records, between 8/1/17 and 6/30/22, the largest monthly throughput was 295 MMscf, which averages over 30 days to roughly 10 MMscfd.*

E. Requirements for Pneumatic Controllers

1. The Permittee shall install, maintain, and operate pneumatic controllers that meet one or more of the following emission control technologies:

(a) Air actuated controllers;
(b) Electronically actuated controllers;

(c) Low-bleed natural gas actuated controllers (no more than 6 standard cubic feet per hour of natural gas); or
(d) No-bleed natural gas actuated controllers.

Observations: *During a previous inspection, Hilcorp indicated that all pneumatic controllers were low bleed or no bleed controllers. In an email dated 9/1/22, Mr. Killough provided a spreadsheet identifying the types of pneumatic controllers installed at the facility. The pneumatic controllers installed at Argenta are identified in Attachment 1.*

2. Each controller shall be operated and maintained according to manufacturer specifications or equivalent procedures developed by the Permittee or vendor.

3. Beginning with the effective date of this permit, records shall be kept of the date of installation of the controllers, the manufacturer specifications of the controllers or equivalent specifications developed by the Permittee or vendor, and all scheduled maintenance and repairs on the controllers.

Observations: *In an email dated 9/1/22, Mr. Killough provided a spreadsheet identifying the types of pneumatic controllers installed at the facility. Records indicate the controllers were installed before 2011.*

F. Requirements for Leak Detection and Repair (LDAR)

1. The Permittee shall implement a LDAR monitoring program for detecting emissions of volatile organic compound (VOC) emissions due to leaking equipment.

Observations: *Hilcorp submits annual reports of the LDAR monitoring events.*

2. The Permittee shall develop a written LDAR protocol that, at a minimum, specifies the following:

(a) The use of an infrared camera for the detection of VOC leaks;
(b) The technical procedures for monitoring with the infrared camera;
(c) A schedule for conducting semiannual monitoring;
(d) Monitoring of "equipment" per the approved LDAR protocol;
(e) A definition of when a "leak" is detected;
(f) A repair schedule for leaking equipment (including delay of repair); and
(g) A recordkeeping format.

Observations: *The LDAR protocol was submitted to EPA on 7/31/12.*

3. The Permittee shall submit the LDAR protocol to the EPA at the following address for approval at least 45 calendar days prior to the date of initial monitoring:

U.S. Environmental Protection Agency, Region 8
Office of Enforcement, Compliance & Environmental Justice Air

Toxics and Technical Enforcement Program, 8ENF-AT 1595
Wynkoop Street
Denver, Colorado 80202

4. LDAR protocols that have already been approved by the EPA may be used in lieu of new protocols unless the EPA determines it is necessary to require the submittal and approval of a new LDAR protocol.

5. The Permittee may submit a revised LDAR protocol at any time for EPA approval. The existing LDAR protocol will remain in effect until a revised LDAR protocol is approved by the EPA.

   Observations: *The LDAR protocol was submitted to EPA on 7/31/12. Ms. Deal also provided a copy of the protocol on 6/25/18. Neither Ms. Deal nor Ms. Ostrand could find a copy of EPA's approval. However, the 7/31/12 letter submitting the Argenta and Sunnyside Compressor Station LDAR protocol indicates the protocol submitted on 7/31/12 was the same at the Ute LDAR CDP LDAR protocol which was approved in a 5/24/12 email from EPA.*

6. In the event that the EPA determines that the LDAR monitoring program is not meeting its intended goals, the Permittee shall submit a revised LDAR protocol upon request by the EPA.

   Observations: *EPA has not determined that the LDAR monitoring program is not meeting its intended goals.*

7. Leak detection monitoring shall commence upon approval of the LDAR protocol by the EPA.

   Observations: *The LDAR protocol was submitted to EPA on 7/31/12. Based on LDAR reports submitted, LDAR monitoring is being conducted.*

8. LDAR monitoring shall be conducted at least semi-annually in accordance with an approved LDAR protocol and shall be conducted a minimum of 5 calendar months apart.

   Observations: *Hilcorp submits semiannual and annual reports of the LDAR monitoring that is conducted. See Table 13 below for LDAR monitoring dates.*

9. The Permittee shall notify the EPA in writing at least 30 calendar days prior to any LDAR monitoring conducted. If monitoring cannot be performed on the scheduled date, the Permittee shall notify EPA at least 1 week prior to the scheduled date and reschedule the monitoring to satisfy the monitoring frequency requirements.

   Observations: *Notifications were provided to the EPA as shown in Table 13.* ***A notification was not provided for the 3/17/19 LDAR monitoring event.***

Table 13: LDAR Monitoring – Notification, Monitoring, and Reporting Dates.

Notification Date	*Monitoring Date*	*Reporting Date (semi/annual)*	
8/8/22	*9/8/22 – 9/16/22*	*Not rcvd*	*Not rcvd*
1/31/22	*3/7/22 – 3/11/22*	*Not rcvd*	*Not rcvd*
8/11/21	*9/13/21*	*Not rcvd*	*3/30/22*
1/25/21	*3/17/21*	*Not rcvd*	*3/30/22*
8/12/20	*9/22/20*	*10/6/20*	*1/22/21*
2/4/20	*3/6/20*	*Not rcvd*	*1/22/21*
8/1/19	*9/12/19*	*10/1/19*	*1/30/20*
1st half 2019 not rcvd	*3/7/19*	*4/8/19*	*1/30/20*
8/8/18	*9/25/18*	*10/16/18*	*1/25/19*
3/9/18	*4/9/18*	*4/23/18*	*1/25/19*
8/7/17	*9/13/17*	*10/26/17*	*1/30/18*
2/9/17	*3/13/17*	*4/4/17*	*1/30/18*

10. The Permittee shall maintain a record of all EPA approved LDAR protocols.

Observations: *During 2018 records review, EPA observed the LDAR Protocol on file. Ms. Deal also provided a copy of the protocol on 6/25/18. Neither Ms. Deal nor Ms. Ostrand could find a copy of EPA's approval. However, the 7/31/12 letter submitting the Argenta and Sunnyside Compressor Station LDAR protocol indicates the protocol submitted on 7/31/12 was the same at the Ute LDAR CDP LDAR protocol which was approved in a 5/24/12 email from EPA.*

11. The Permittee shall maintain a record of the results of all LDAR monitoring and any necessary equipment repairs due to VOC leaks.

Observations: *Hilcorp generally submits semiannually and annually the results of all LDAR monitoring. The LDAR reports identify equipment leaks and repairs.*

G. Requirements for Records Retention

1. The Permittee shall retain all records required by this permit for a period of at least 5 years from the date the record was created.

Observations: *Records for the previous five years were reviewed by Ms. Bergl.*

2. Records shall be kept in the vicinity of the facility, such as at the facility, the location that has day-to-day operational control over the facility, or the location that has day-to-day responsibility for compliance of the facility.

Observations: *EPA did not observe records during the on-site inspection.*

H. Requirements for Reporting

1. Annual Emission Reports

(a) The Permittee shall submit a written annual report of the actual annual emissions from all emission units at the facility covered under this permit; including emissions from start-ups, shutdowns, and malfunctions, each year no later than April 1st. The annual report shall cover the period for the previous calendar year. All reports shall be certified to truth and accuracy by the person primarily responsible for Clean Air Act compliance for the Permittee.

Observations: *Annual emissions reports have been submitted, and report facility-wide emissions (tpy), as shown in Table 14.*

Table 14: Reported annual emissions

Report Date	*Year*	*NOx**	*CO**	*VOC**	*PM**	*SO_2**	*CH_2O**	*Benzene*	*Total HAPs**
4/1/22	*2021*	*46.55*	*11.50*	*6.48*	*1.04*	*1.54*	*0.89*	*0.11*	*1.60*
3/9/21	*2020*	*46.87*	*11.80*	*6.51*	*1.06*	*1.59*	*0.89*	*0.11*	*1.60*
2/26/20	*2019*	*46.51*	*11.72*	*6.48*	*1.05*	*1.57*	*0.88*	*0.11*	*1.59*
3/1/19	*2018*	*47.24*	*11.89*	*6.52*	*1.07*	*1.60*	*0.90*	*0.11*	*1.61*
1/23/18	*2017*	*44.86*	*11.32*	*6.39*	*1.02*	*1.52*	*0.85*	*0.11*	*1.55*
3/28/17	*2016*	*46.09*	*11.61*	*6.45*	*1.04*	*1.56*	*0.87*	*0.11*	*1.57*

**NOx = nitrogen oxide; CO = carbon monoxide; VOC = volatile organic compound; PM = particulate matter; SO_2 = sulfur dioxide; CH_2O = formaldehyde; HAP = hazardous air pollutant.*

(b) The report shall be submitted to:

U.S. Environmental Protection Agency, Region 8 Office of Partnerships and Regulatory Assistance Tribal Air Permitting Program, 8P-AR
1595 Wynkoop Street
Denver, Colorado 80202

The report may be submitted via electronic mail to r8AirPermitting@epa.gov.

2. All other documents required to be submitted under this permit, with the exception of the Annual Emission Reports, shall be submitted to:

U.S. Environmental Protection Agency, Region 8
Office of Enforcement, Compliance & Environmental Justice Air Toxics and Technical Enforcement Program, 8ENF-AT 1595 Wynkoop Street
Denver, Colorado 80202

All Documents may be submitted electronically to r8airreportenforcement@epa.gov.

3. The Permittee shall submit a written LDAR monitoring report each year no later than April 1st. The annual report shall include the semi-annual LDAR monitoring results for the previous calendar year, including any necessary equipment repairs due to VOC leaks.

Observations: *See Table 13 above for annual LDAR reporting dates.*

4. The Permittee shall promptly submit to the EPA a written report of any deviations of permit requirements and a description of the probable cause of such deviations and any corrective actions or preventative measures taken. A "prompt" deviation report is one that is post marked or submitted via electronic mail to r8airreportenforcement@epa.gov as follows:

(a) Within 30 days from the discovery of any deviation of the emission or operational limits that is left un-corrected for more than 5 days after discovering the deviation;

(b) By April 1st for the discovery of a deviation of recordkeeping or other permit conditions during the preceding calendar year that do not affect the Permittee's ability to meet the emission limits.

Observations: *Hilcorp has submitted annual deviation reports as shown in Table 15.*

Table 15: Deviation reports

Report Date	*Deviations noted*
4/2/22	• *Failing to notify EPA within one week of inability to perform testing* • *Did not monitor pressure drop from 10/1 to 10/31, >30 days* • *Delayed LDAR final repair from 9/13 not until 11/9/2021*
2/26/21	• *Notification for February 10, 2020 testing was sent 6 days prior to testing instead of the required 30 days*
1/30/20	• *Failing to meet engine catalyst pressure drop requirements* • *Notification for May 6, 2019 testing was sent 6 days prior to testing instead of the required 30 days* • *No notification was submitted for March 7, 2019 LDAR monitoring*
3/5/19	• *Failing to meet engine catalyst pressure drop requirements*
1/31/18	• *Failing to meet engine pressure drop requirements* • *Failing to notify EPA prior to testing* • *Failing to submit test report within 60 days.*
3/28/17	• *Failing to meet engine pressure drop requirements* • *Performance test conducted on 3/7/16 and 6/14/16 consisted of one 21-minute run in lieu of three 1-hour runs per COP's updated test protocol dated 4/11/16 that was approved by EPA on 7/12/16.* • *Failing to notify 30-days before 12/12/16 test.*

5. The Permittee shall submit a written report for any required performance tests to the EPA Regional Office within 60 days after completing the tests.

Observations: *Generally, Hilcorp submits reports as required, except for a late submittal for 2017 and 2021, as highlighted in Table 8 of this report.*

6. The Permittee shall submit any record or report required by this permit upon EPA request.

Observations: *Following the onsite inspection, Ms. Bergl requested multiple documents. Mr. Killough provided the information as requested.*

VIII. MACT ZZZZ Requirement

Hilcorp indicated that the engines at Argenta are considered remote designated engines in accordance with NESHAP ZZZZ practices.

A. 40 C.F.R. § 63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you. *[Note 2b does not apply to Argenta's engines.]*.

Table 2d - Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

8. For each Non-emergency, non-black start 4SLB and 4SRB remote stationary RICE >500 HP You must meet the following requirement, except during periods of startup:
   a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first; [Note, Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.]
   b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and
   c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary

(b) through (e) *do not apply to Argenta*.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in
§63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-

emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in
§63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

Observations: *EPA has observed the initial and annual remote determinations during previous records reviews.*

B. § 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in *Table 6* to this subpart.

Table 6 - Continuous Compliance With Emission Limitations, and Other Requirements

9. Existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are *remote stationary RICE*

a. Work or Management practices

i. Operating and maintaining the stationary RICE according to the manufacturer's emission- related operation and maintenance instructions; or

ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(b) – (d), and (f) <u>*do not apply to Argenta*</u>.

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you.

Observations: *In a 2018 EPA inspection record review, Ms. Deal indicated that the manufacturer recommended engine maintenance is included in a "Task List" for the engine. Ms. Deal indicated that the catalyst maintenance is also included in the Task Lists. In an email dated 6/6/18, Ms. Deal provided engine and catalyst manufacturer recommended maintenance*

specifications. In an email dated 6/25/18 Ms. Deal provided example preventative maintenance checklists for the 1-month, 2-month, 4-month, 6-month and 1-year preventative maintenance that had been completed. During the 2022 inspection record review, Mr. Killough provided updated 1-month, 2-month, 4-month, 6-month, and 1-year preventative maintenance checklists. Additionally, Mr. Killough provided a spreadsheet indicating the preventative maintenance that had been conducted since August 2017. The records indicate that the oil and oil filter is inspected or replaced, and the spark plugs and belts inspected or replaced, regularly.

C. 63.6655 What records must I keep?

(a) –(d) and (f) *Do not apply to Argenta.*

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) and (2) *Do not apply to Argenta.*

(3) An existing stationary RICE located at an area source of HAP emissions subject to the management practices as shown in Table 2d to this subpart.

Observations: *See discussion above.*

D. § 63.6675 What definitions apply to this subpart

Remote stationary RICE means stationary RICE meeting any of the following criteria:
(1) Stationary RICE located in an offshore area … *Does not apply to Argenta.*

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not

be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii)For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25-mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Observations: *EPA has observed the initial and annual remote determinations during previous records reviews.*

IX. MACT HH Requirements

E. 40 CFR § 63.764 General standards.

(e) Exemptions. (1) The owner or operator of an area source is exempt from the requirements of paragraph (d) [glycol dehydration standards] of this section if the criteria listed in paragraph (e)(1)(i) or (ii) of this section are met, except that the records of the determination of these criteria must be maintained as required in §63.774(d)(1).

(i) The actual annual average flowrate of natural gas to the glycol dehydration unit is less than 85 thousand standard cubic meters per day, as determined by the procedures specified in §63.772(b)(1) of this subpart; or

(ii) The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagram per year, as determined by the procedures specified in §63.772(b)(2) of this subpart.

Observations: *Mr. Killough provided monthly flowrate data through the glycol dehydration units in an email dated 9/1/22. According to the records, between 8/1/17 and 6/30/22, the largest monthly throughput was 295 MMscf, which averages over 30 days to roughly 10 MMscfd , which sufficiently demonstrate that flowrate is less than 85 thousand standard cubic meters per day and that condition (e)(1)(i) of 40 CFR* § 63.764 *is being met. There have been no changes in operation since EPA's 2018 inspection that would indicate a change in the exemption conditions*

being satisfied. For completeness, the 2018 review is included in this report:

> *During the 2018 EPA records review, EPA reviewed Argenta GLYCalc runs dated 3/21/18 and 9/14/16 and an extended gas analysis with a sample date of 12/14/17. The 3/21/18 GLYCalc run uses the gas concentrations from the 12/14/17 extended gas analysis. The 12/14/17 GLYCalc run uses Lean Glycol rate as 1.1 gpm and Dry Gas flow rate as 9.3 MMSCF/day and calculates benzene emissions to be as follows: Uncontrolled regenerator – 0.0515 tpy.*
>
> *In an email dated 6/6/18, Ms. Deal provided information indicating that the Argenta dehydrators use Kimray pump model #10015. Information from Kimray literature (https://kimray.com/documents/Catalog_Pages/PB_0004.pdf) indicates that the maximum pump rate for model #10015 is 100 gallons per hour [1.67 gpm]. Ms. Ostrand reran the 3/21/18 GLYCal run using the same information in Hilcorp's 3/21/18 GLYCalc run except increasing the lean Glycol flow rate to 1.67 gpm[6]. The resultant benzene emissions were as follows: Uncontrolled regenerator – 0.0747 tpy.*
>
> *The 9/14/16 GLYCalc run indicates that an extended gas analysis dated 7/20/16 was used to calculate emissions. The wet gas concentrations used in the 9/14/16 GLYCalc run appears to line up with gas concentrations observed in the 7/20/16 extended gas analysis, which was submitted in a subsequent email on 5/29/18. The 9/14/16 GLYCalc run uses Lean Glycol rate as 1.12 gpm and Dry Gas flow rate as 5.5290 MMSCF/day and calculates benzene emissions to be as follows: Uncontrolled regenerator – 0.0543 tpy.*

F. 40 CFR § 63.772 Test methods, compliance procedures, and compliance demonstrations.

(b) Determination of glycol dehydration unit flowrate, benzene emissions, or BTEX emissions. The procedures of this paragraph shall be used by an owner or operator to determine glycol dehydration unit natural gas flowrate, benzene emissions, or BTEX emissions.

(1) The determination of actual flowrate of natural gas to a glycol dehydration unit shall be made using the procedures of either paragraph (b)(1)(i) or (b)(1)(ii) of this section.

> (i) The owner or operator shall install and operate a monitoring instrument that directly measures natural gas flowrate to the glycol dehydration unit with an accuracy of plus or minus 2 percent or better. The owner or operator shall convert annual natural gas flowrate to a daily average by dividing the annual flowrate by the number of days per year the glycol dehydration unit processed natural gas.
>
> (ii) The owner or operator shall document, to the Administrator's satisfaction, the actual annual average natural gas flowrate to the glycol dehydration unit.

(2) The determination of actual average benzene or BTEX emissions from a glycol

dehydration unit shall be made using the procedures of either paragraph (b)(2)(i) or (ii) of this section. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place.

> (i) The owner or operator shall determine actual average benzene or BTEX emissions using the model GRI-GLYCalcTM, Version 3.0 or higher, and the procedures presented in the associated GRI-GLYCalcTM Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI-95/0368.1); or
>
> (ii) The owner or operator shall determine an average mass rate of benzene or BTEX emissions in kilograms per hour through direct measurement using the methods in §63.772(a)(1)(i) or (ii), or an alternative method according to §63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year.

Observations: *See discussion above.*

G. 40 CFR § 63.774 Recordkeeping requirements.

(d)(1) An owner or operator of a glycol dehydration unit that meets the exemption criteria in §63.764(e)(1)(i) or §63.764(e)(1)(ii) shall maintain the records specified in paragraph (d)(1)(i) or paragraph (d)(1)(ii) of this section, as appropriate, for that glycol dehydration unit.

> (i) The actual annual average natural gas throughput (in terms of natural gas flowrate to the glycol dehydration unit per day) as determined in accordance with §63.772(b)(1), or
>
> (ii) The actual average benzene emissions (in terms of benzene emissions per year) as determined in accordance with §63.772(b)(2).

Observations: *See discussion above.*

X. Closing meeting

Inspectors left the onsite inspection at 2:35 pm mdt. Ms. Bergl indicated that she would be requesting additional information.

XI. Findings – Areas of Concern and Compliance Assistance

Several instances of permit deviations and areas of concern have been identified through the 6/29/22 inspection and subsequent records review which have been highlighted in this report and are also in this section. Following the record review and drafting of this report, EPA

intends to inquire with Hilcorp about missing records and notifications identified during this inspection and will issue an addendum to this report should one be warranted.

Areas of Concern/Permit Deviations:

- Hilcorp did not submit performance testing notifications in 2017 or 2020 as noted in Table 8.
- Hilcorp did not submit timely performance testing results in 2017 or 2021 as highlighted in Table 8.
- Quarterly portable analyzer monitoring results for E001 and E002 were not sent to EPA for 4th quarter 2019.
- Since 2018, there appear to have been several deviations of pressure drop data from the established baseline, as well as missing monthly data points as indicated in Tables 9 and 10. A description of corrective actions taken following each deviation was not provided, so it's not clear whether all appropriate actions have been taken when deviations have occurred.

  The 2017, 2018 and 2019 annual deviation reports indicate that the "pressure drop across the catalyst bed was not always maintained within ± 2 inches of water during the reporting period. Fluctuations in pressure drop across the catalysts can occur due to changes in engine operating load." The deviation reports indicate that the following corrective actions or preventative measures were taken: "No corrective actions required. Investigate each month and verify with load calculations, monthly portable analyzer screenings are conducted to verify catalyst performance, and quarterly performance tests consistently demonstrate emission limits are being met." Additionally, the 2021 deviation report notes that pressure drop was not monitored on E002 from 10/1 to 10/31, >30 days. Monthly Pressure drop measurements deviated more than 2 inches of water from the baseline pressure drop as indicated in Tables 9 and 10.
- Based on the data provided by Mr. Killough in a 9/1/22 email, it appears that Hilcorp is comparing monthly pressure drop readings to the pressure drop measured during the most recent quarterly tests, including from quarterly portable analyzer tests. Permit condition C.5.e specifically requires the actions in C.5.e.i – C.5.e.iii be taken "If the pressure drop reading exceeds ± 2 inches of water from the baseline pressure drop established during the most recent performance test", where testing is considered to be a performance test if it meets the requirements outlined in Permit condition C.4.d.(i-v). Quarterly portable analyzer tests do not meet these requirements, and the pressure drop measured during these tests is therefore not an appropriate value to be used in determining deviations of monthly pressure drop readings.
- Complete temperature measurement data or a description of corrective actions taken pursuant to this permit have not been provided at this time. It's not clear whether all appropriate actions have been taken when engine pre-catalyst temperature falls below 450 °F.
- A notification was not provided for the 3/17/19 LDAR monitoring event.

Compliance Assistance:

Hilcorp should ensure:

- All notification **and** reporting requirements of Permit # SMNSR-SU-000030-2019.002 are timely submitted (performance tests, quarterly tests, and LDAR monitoring);

- All testing required in this permit is timely completed, including after engine rebuilds and catalyst change events;

- Corrective actions are taken following each deviation of pressure drop or temperature parameters, and that a record of those actions is maintained;

- And that baseline pressure drop values are only re-established during performance tests which meet the definitions prescribed in Permit # SMNSR-SU-000030-2019.002, specifically for monitoring of pressure drop deviations across the catalyst.

XII. Picture/IR Video Log

Table 16: Images from Laurie Ostrand's 2018 CAA Inspection

Image #	*Photographer*	*Date and Time*	*Description*
RIMG0010.JPG	*Laurie Ostrand*	*5/14/18, 3:09 pm*	*Argenta compressor building*
RIMG0011.JPG	*Laurie Ostrand*	*5/14/18, 3:09 pm*	*Argenta inlet*
RIMG0012.JPG	*Laurie Ostrand*	*5/14/18, 3:09 pm*	*Argenta produced water tank*
RIMG0013.JPG	*Laurie Ostrand*	*5/14/18, 3:10 pm*	*Argenta Dehydrator #1 on right, Dehydrator #2 on left*
RIMG0014.JPG	*Laurie Ostrand*	*5/14/18, 3:10 pm*	*Argenta Dehydrator #3 on right Dehydrator #4 on left*
RIMG0015.JPG	*Laurie Ostrand*	*5/14/18, 3:14 pm*	*Argenta Dehydrator #1 pump*
RIMG0016.JPG	*Laurie Ostrand*	*5/14/18, 3:18 pm*	*Argenta Dehydrator #2 pump*
RIMG0017.JPG	*Laurie Ostrand*	*5/14/18, 3:31 pm*	*Argenta, backside of engines showing catalysts. Engines #1 and #2 have catalysts in the muffler (catalysts are lengthwise in muffler). Catalyst in #3, third from right, is a drop-in catalyst (see rectangle drop in point neat building).*
RIMG0018.JPG	*Laurie Ostrand*	*5/14/18, 3:31 pm*	*Argenta, Engine #4 catalyst is a banded catalyst (i.e., circular catalyst inside pipe prior to the muffler)*
RIMG0019.JPG	*Laurie Ostrand*	*5/14/18, 3:34 pm*	*Argenta, Dehydrator #3 pump*
RIMG0020.JPG	*Laurie Ostrand*	*5/14/18, 3:35 pm*	*Argenta, Dehydrator #4 pump*

Attachment 1 – Pneumatics at Argenta

EQUIP_ID	EQUIP_DESC	MFG_MAKE_MO DEL	Pneumatic Controller Function	Pneumatic Controller Type
20042991	In Service	MURPHY L1200N	Level - Electric	Intermittent Bleed Pneumatic Devices
20042992	In Service	MURPHY LS200N	Level	Intermittent Bleed Pneumatic Devices
20043017	Out of Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043018	In Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043019	In Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043020	In Service	MURPHY L1200N	Level - Electric	Intermittent Bleed Pneumatic Devices
20043021	Out of Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043022	In Service	MURPHY LS200N	Level	Intermittent Bleed Pneumatic Devices
20043023	In Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043024	Out of Service	NORRISEAL 1001	Level	Intermittent Bleed Pneumatic Devices
20043025	Out of Service	NORRISEAL 1001A	Level	Intermittent Bleed Pneumatic Devices
20043026	Out of Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043027	In Service	NORRISEAL 1001A	Level	Intermittent Bleed Pneumatic Devices
20043028	In Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043029	Out of Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043031	In Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043032	Out of Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043033	In Service	EMERSON FISHER i2P-100_L	Electro-pneumatic transducer	Intermittent Bleed Pneumatic Devices
20043034	In Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043035	In Service	ASCO EF 8314 G301	Solenoid valve	Intermittent Bleed Pneumatic Devices
20043036	Out of Service	KIMRAY T12	Temperature controller	Intermittent Bleed Pneumatic Devices
20043037	In Service	WELLMARK/CEMCO 7400 Snaptrol	Electro-pneumatic level controller	Intermittent-bleed/no-bleed Pneumatic Devices
20043038	In Service	NORRISEAL 1001A	Level	Intermittent Bleed Pneumatic Devices
20043039	Out of Service	NORRISEAL 1001	Level	Intermittent Bleed Pneumatic Devices
20043040	Out of Service	MURPHY LS200N	Level	Intermittent Bleed Pneumatic Devices
20043041	Out of Service	ASCO EF 8314 G301	Solenoid valve	Intermittent Bleed Pneumatic Devices
20043042	In Service	ASCO EF 8314 G301	Solenoid valve	Intermittent Bleed Pneumatic Devices
20043043	Out of Service	NORRISEAL 1001A	Level	Intermittent Bleed Pneumatic Devices