HOLLYFRONTIER.

HollyFrontier Navajo Refining LLC
501 East Main, Artesia, New Mexico 88210
Tel: 575-748-3311
hollyfrontier.com

February 18, 2022

Ms. Leigh Barr
Oil Conservation Division
New Mexico Energy, Minerals & Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Groundwater Discharge Plan to Renew Discharge Permit GW-028 – Response to Notice of Administratively Incomplete Discharge Permit Renewal Application

Dear Ms. Barr:

HollyFrontier Navajo Refining LLC (Navajo) submitted a Groundwater Discharge Plan to renew and modify Discharge Permit GW-028 for the Artesia, New Mexico Refinery (the Refinery) on December 22, 2021. The Oil Conservation Division (OCD) provided comments on January 21, 2022. The attached revision to the Groundwater Discharge Plan to renew and modify Discharge Permit GW-028 constitute Navajo's formal response to the comments received.

A Response and Cross-Reference Table containing Navajo's response to the comments received from the OCD, and the location of the revisions, is provided in Attachment 1.

Should you have questions or requests for additional information, please contact Kawika Tupou at (575) 746-5487 or Kawika.Tupou@hollyfrontier.com. Thank you for your consideration in this matter.

Sincerely,

Parrish Miller
Vice President and Refinery Manager
HollyFrontier Navajo Refining LLC

CC: Mike Holder, HFC
Kawika Tupou, HFNR

Attachment 1 – Response and Cross-Reference Table

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Attachment 1 – Response and Cross-Reference Table

ATTACHMENT 1
RESPONSE AND CROSS-REFERENCE TABLE

Response and Cross Reference Table

Comment Number	OCD Comment	Navajo Response	Location of Revision/Information in Application
1	In the discharge permit renewal application where applicable, state that the Refinery will implement and utilize the Reuse Water Plan that was approved by OCD on September 22, 2021.	Section 2.3 has been revised to include that the Refinery will implement and utilize the Reuse Water Plan that was approved by OCD on September 22, 2021.	Section 2.3
2	Provide the capacity/volume of the stormwater retention ponds/basins. Are the retention ponds/basins lined or unlined and where are they located? Also, explain how stormwater from within the Refinery boundary is not allowed to discharge to Eagle Creek.	Section 3.7 has been revised to include the capacity (30,000 bbls) and location of the stormwater retention ponds at the Facility. All of the stormwater ponds are lined. A description of how stormwater from within the Refinery boundary is kept from discharging to Eagle Creek has also been included. Briefly, a system of berms located along Eagle Creek serves to prevent discharge of stormwater from within the Refinery to Eagle Creek. The US Fish and Wildlife Services National Wetlands Inventory has been reviewed, and the retention ponds/basins are not in the vicinity of other wetlands on the Refinery, as shown on Figure 3-1. A new Figure 3-2 is provided with the locations of the retention ponds/basins.	Section 3.7, newly added Figure 3-2, Table of Contents.

Response and Cross Reference Table (cont.)

Comment Number	OCD Comment	Navajo Response	Location of Revision/Information in Application
3	Has there been any historical flooding at the Refinery?	There has not been any historical flooding at the Refinery. National Oceanic and Atmospheric Administration (NOAA) data was reviewed from 1981 to 2021. The average monthly precipitation was below 3 inches in the area in which the Refinery is located. Federal floodplain maps also indicate that most of the City and the Refinery have been effectively removed from the 100-year floodplain. Section 3.7 has been revised to include this information.	Section 3.7
4	Where are the evaporation ponds located in Figure 2-3? The figure's legend did not specify location. Also are there any evaporation ponds in the vicinity of the wetlands identified in Figure 3-1?	As part of the response to Comment 5 (see below) the original Figure 2-3 became Figure 2-4 to allow for the addition of a figure to the Discharge Plan. Callout boxes have been added to Figure 2-4 to identify the Refinery/RDU and Evaporation Ponds locations. The outline of the Evaporation Ponds has been added to the figure and legend. The wetlands provided on Figure 3-1 have been revised, as the wetlands previously presented on Figure 3-1 were incorrect. The US Fish and Wildlife Services National Wetlands Inventory was reviewed to correct this error. The Evaporation Ponds are located within a bend of the Pecos River, and are bermed to prevent run-on and run-off.	Figure 2-4, Figure 3-1

Response and Cross Reference Table (cont.)

Comment Number	OCD Comment	Navajo Response	Location of Revision/Information in Application
5	Clearly identify where the three permanent CAAs are located in Figure 2-1. Also, Figure 2-1 only identifies two hazardous waste management units (HWMUs). Where are the inactive HWMU EPs 2 through 6 located?	Callouts have been added to Figure 2-1 to clearly identify where the three permanent CAAs are located. Callouts have also been added to identify the HWMUs shown on Figure 2-1. A new aerial photograph showing the location of the Evaporation Ponds, located approximately 3 miles to the east of the Refinery, is provided as Figure 2-2. Previously numbered Figures 2-2 through 2-4 have been re-numbered to Figures 2-3 through 2-5 to account for the addition of a figure.	Figure 2-1, newly added Figure 2-2, Figure 2-3, Figure 2-4, Figure 2-5, and Table of Contents

Response and Cross Reference Table (cont.)

Comment Number	OCD Comment	Navajo Response	Location of Revision/Information in Application
6	Section 6 states, "Inspections will focus on identifying potential malfunctions, deterioration, operator errors, and discharges which may be causing (or may lead to) release of hazardous waste constituents to the environment or pose a threat to human health." However, this section states the HWMUs are inactive. If the HWMUs are inactive what could lead to a release of a hazardous waste? Also, Table 4-2 (Typical Hazardous Wastes) shows hazardous waste being stored at the NCL and TEL. However, the discussion related to the HWMUs does not address these wastes. Are weekly inspections not being conducted for these wastes located at the HWMUs? Clarification is needed regarding the HWMUs, hazardous wastes stored, and the inspection process. Include example inspection forms as applicable.	The three HWMUs at the Refinery are closed and inactive and managed under a RCRA Part B Post-Closure Hazardous Waste Permit (Permit Number NMD048918817, the Permit). The inspection requirements included in the Permit include identifying potential malfunctions, deteriorations, operator errors, and discharges which may be causing (or may lead to) release of hazardous waste constituents to the environment or a threat to human health. There are no potential discharges expected from the three HWMUs at the Refinery. The NCL and TEL have completed the closure process and are currently in post-closure care. The EPs are inactive and currently in the closure process. Wastes were left in place in contained areas of the NCL and the TEL. The TEL site has an engineered cap to minimize the potential for human and wildlife exposure to waste that remains in place, and the NCL has a secondary containment berm and a vegetated cover to minimize wind- and surface water-borne erosion. These caps are inspected and maintained. Example inspection forms for the HWMUs were previously provided as Appendix 6.3. The HWMUs have no operating equipment so they inspections are primarily focused on security, dikes, caps and covers, run-on/run-off drainage systems, and monitoring wells, as applicable. No wastes remain in the Evaporation Ponds, which are bermed to minimize/prevent run-on and run-off.	Table 4-2, Section 6.1, and Appendix 6.3

Response and Cross Reference Table (cont.)

Comment Number	OCD Comment	Navajo Response	Location of Revision/Information in Application
6 (cont.)		The NCL also contains within the eastern half of its boundaries Tank 815, an 80,000 bbl tank used to store Ultra Low Sulfur Diesel fuel, associated tank secondary containment berms, and ancillary tank equipment. Example inspection forms for Tank 815 and Tank 815 secondary containment have been added to Appendix 6.3.	
7	Provide the average and maximum daily volumes of groundwater processed through the three RO units and the average and maximum daily throughputs of wastewater going to the WWTP.	The average and maximum volumes of groundwater processed through the three RO units have been calculated using weekly readings of the water meters. Between January 2021 to February 2022, the average volume is 398 gpm, and the maximum volume is 1,191 gpm. The average and maximum daily throughputs of wastewater going to the WWTP have been calculated using daily reading of water meters. Between January 2021 to February 2022, the average volume is 13 gpm, and the maximum volume is 20 gpm.	Section 4.3.2
8	In Section 8.1.1 under the RDU description, “ultra ow” is stated as a very small fraction of the 99% renewable diesel product. Did this section mean to state ultra-low sulfur petroleum diesel?	The RDU description has been updated to correct the typographical error to “ultra-low sulfur petroleum diesel”.	Section 8.1.1
9	Section 9.1 states a synopsis of the public notice will be posted outside of the Refinery’s main administrative office and on various locations of the Refinery fence line. 20.6.2.3108(B)(1) NMAC requires an additional notice posted at a place located off the discharge site; provide a location for the synopsis of the public notice at a place located off the discharge site.	A synopsis of the public notice will also be made available at the Artesia Public Library at 205 West Quay Avenue, Artesia, NM 88210.	Section 9.1

Response and Cross Reference Table (cont.)

Comment Number	OCD Comment	Navajo Response	Location of Revision/Information in Application
10	In Appendix 9-1, in both English and Spanish notices, specify the maximum daily throughputs through the three RO units and revise the OCD contact to the following: Mr. Christopher Whitehead Oil Conservation Division New Mexico Energy, Minerals & Natural Resources Department 1220 South St. Francis Drive Santa Fe, NM 87505 (505) 476-3441 OCD.DischargePermits@state.nm.us	The maximum throughputs of up to 1,191 gpm through the three RO units has been added to both the English and Spanish versions of the Public Notice. The maximum throughputs of groundwater processed through the three RO units is calculated using weekly readings of water meters at the Refinery. The OCD contract has not been revised in both the English and Spanish versions of the Public Notice, as Mr. Christopher Whitehead has resigned.	Appendix 9-1
NA	NA	A typographical error was corrected in Table 4-1. Tank 13 has been revised to Tank 18.	Table 4-1

Note: OCD Comments are copied verbatim from the January 21, 2022, letter to HFNR from Ms. Leigh P. Barr at OCD.

Acronyms:
Bbl - Barrel
CAA – Central Accumulation Area
EPs – Evaporation Ponds
Gpm – Gallons Per Minute
HWMU – Hazardous Waste Management Units
OCD – Oil Conservation District
NCL – North Colony Landfill
NMAC – New Mexico Administrative Code
NOAA - National Oceanic and Atmospheric Administration
RDU – Renewable Diesel Unit
RO – Reverse Osmosis
TEL – Tetraethyl Lead
WWTP – Wastewater Treatment Plant

UPDATED GROUNDWATER DISCHARGE PLAN
TO RENEW DISCHARGE PERMIT GW-028

Groundwater Discharge Plan to Renew Discharge Permit GW-028

Prepared for

HollyFrontier Navajo Refining LLC
Artesia Refinery
Artesia, New Mexico

Prepared by

505 East Huntland Dr., Suite 250
Austin, Texas 78752

December 22, 2021
Revised February 18, 2022

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LIST OF ACRONYMS AND ABBREVIATIONS

Amsl	Above Mean Sea Level
API	American Petroleum Institute
APTU	Artesia PTU LLC
ARDC	Artesia Renewable Diesel Company LLC
ASTs	Aboveground Storage Tanks
bbl	barrel
bgs	below ground surface
CAAs	Central Accumulation Areas
CAP	Corrective Action Program
CGWSLs	Critical Groundwater Screening Level
COC	Chemical of concern
Discharge Permit	Discharge Permit GW-28
DRO	Diesel range organics
EDB	1,2-dibromomethane
EPs	Evaporation Ponds
FWGMWP	Facility Wide Groundwater Monitoring Workplan
Gpd	Gallons per day
GRO	Gasoline range organics
HWMU	Hazardous Waste Management Units
mg/L	milligrams per liter
MIT	Mechanical Integrity Testing
MTBE	Methyl Tert-Butyl Ether
Navajo	HollyFrontier Navajo Refining LLC
NCL	North Colony Landfarm
NM	New Mexico
NMAC	New Mexico Administrative Code
NMED	New Mexico Environmental Department
NMPM	New Mexico Principal Meridian
NRC	National Response Center
NWGLDE	National Work Group of Leak Detection Evaluations

LIST OF ACRONYMS AND ABBREVIATIONS (CONT.)

OCD	New Mexico Energy, Minerals & Natural Resources Department, Oil Conservation District
PD	Probability of Detection
PF	Probability of False Alarm
POTW	Publicly owned treatment works
PSH	Phase-separated hydrocarbons
PTU	Pre-Treatment Unit
RCRA	Resource Conservation and Recovery Act
RDU	Renewable Diesel Unit
RO	Reverse Osmosis
SAAs	Satellite Accumulation Areas
SPCC Plan	Spill Prevention Control and Countermeasure Plan
SVOC	Semivolatile Organic Compounds
TBA	tert-butyl alcohol
TDS	Total Dissolved Solids
TEL	Tetra Ethyl Lead
The Refinery	Navajo Artesia, New Mexico Refinery
TMD	Three Mile Ditch
TPH	Total Petroleum Hydrocarbons
UIC	Underground Injection Control
U.S. EPA	United States Environmental Protection Agency
USPS	United States Postal Service
VOC	Volatile Organic Compounds
WQCC	Water Quality Control Commission
WWTP	Wastewater Treatment Plant
40 CFR	Title 40 of the Code of Federal Regulations

Cross-References of Contents in Groundwater Discharge Plan to Renew Discharge Permit GW-028 to OCD Groundwater Discharge Application/Plan Format Guidelines

OCD Ground Water Discharge Plan Information Requirement	Location in Groundwater Discharge Plan to Renew Discharge Permit GW-028
Facility Description	Section 2, Figures 2-1 through 2-4
Site Characteristics	Section 3, Figure 3-1
Potential and Intentional Discharges	Section 4, Figures 2-1 and 2-2, Tables 4-1, 4-2, and 5-1
Collection and Storage Systems	Section 5, Tables 4-1 and 5-1
Inspection, Maintenance, and Reporting	Section 6, Figure 2-1, Appendices 6-1 through 6-3
Proposed Modifications	Section 7
Spill/Leak Prevention and Reporting Procedures (Contingency Plan for Releases)	Section 8
Public Notice	Section 9, Appendix 9-1
Additional Information	Section 10
Facility Closure Plan	Section 11
Ground Water Discharge Plan Fee	Section 1.3
Certification	Section 12

Regulatory Cross-References of Groundwater Discharge Plan to Renew Discharge Permit GW-028 to New Mexico Administrative Code Requirements

Applicable New Mexico Administrative Code (NMAC) Section	Information Requirement	Location in Groundwater Discharge Plan to Renew Discharge Permit GW-028
20.6.2.3106(D)(1)	Quantity, quality, and flow characteristics of the discharge	Section 4.3
20.6.2.3106(D)(2)	Location of the discharge and of any bodies of water, watercourses, and ground water discharge sites within one miles of the outside perimeter of the discharge site, and existing or proposed wells to be used for monitoring	Section 3.4, Figures 2-1, 2-2, and 3-1
20.6.2.3106(D)(3)	Depth to and TDS concentration of groundwater most likely to be affected by discharge	Section 3.8
20.6.2.3106(D)(4)	Flooding potential of the site	Section 3.7
20.6.2.3106(D)(5)	Location and design of site and method to be available for sampling and for measurements or calculations of flow	Sections 3.6, 3.8, 4.3, and 4.4
20.6.2.3106(D)(6)	Depth and description of lithology	Section 3.5
20.6.2.3106(D)(7)	Information demonstrating that discharges will not be above standards	Sections 3.5 and 3.6
20.6.2.3106(D)(8)	Information required for a technical evaluation of underground injection control wells	Sections 3.8 and 4.3
20.6.2.3107(A)(1)	The installation, use, and maintenance of effluent monitoring devices	Section 6
20.6.2.3107(A)(2)	The installation, use, and maintenance of effluent monitoring devices for the groundwater most likely to be affected by the discharge	Sections 3.8, 4.4, 6.2, and 6.4
20.6.2.3107(A)(3)	Monitoring in the vadose zone	Section 3.8
20.6.2.3107(A)(4)	Continuation of monitoring after cessation of operations	Section 11

Regulatory Cross-References of Groundwater Discharge Plan to Renew Discharge Permit GW-028 to New Mexico Administrative Code Requirements (Cont.)

Applicable New Mexico Administrative Code (NMAC) Section	Information Requirement	Location in Groundwater Discharge Plan to Renew Discharge Permit GW-028
20.6.2.3107(A)(5)	Periodic submission to the secretary or results obtained pursuant to any monitoring requirements in the discharge permit and the methods used to obtain these results	Sections 4.4
20.6.2.3107(A)(6)	Periodic reporting to the secretary of any other information that may be required as set forth in the discharge permit	Section 4.3.2
20.6.2.3107(A)(7)	The discharger to retain for a period of at least five years any monitoring data required in the discharge permit	Section 3.8
20.6.2.3107(A)(8)	A system of monitoring and reporting to verify that the permit is achieving the expected results	Sections 3.8, 4.4, and 6.4
20.6.2.3107(A)(9)	Procedures for detecting failure of the discharge system	Sections 6.1, 6.2, and 6.3
20.6.2.3107(A)(10)	Contingency Plan to address failure of the discharge permit or system	Section 8
20.6.2.3107(A)(11)	Closure Plan	Section 11
20.6.2.3108(A)	Administrative Completeness and Public Notice	Section 9
20.6.2.3108(B)(1)	Providing specific notice to the general public for every 640 acres of less of a discharge site, a 2x3 feet poster will be posted for the public	Section 9.1
20.6.2.3108(B)(2)	Providing written notice of where discharge is located to all neighbors within 1/3 mile	Section 9.2

Regulatory Cross-References of Groundwater Discharge Plan to Renew Discharge Permit GW-028 to New Mexico Administrative Code Requirements (Cont.)

Applicable New Mexico Administrative Code (NMAC) Section	Information Requirement	Location in Groundwater Discharge Plan to Renew Discharge Permit GW-028
20.6.2.3108(B)(3)	Providing notice to owner if applicant is not owner	Section 9.3
20.6.2.3108(B)(4)	Publishing synopsis that is 3x4 inches in a newspaper of general circulation in the location of discharge	Section 9.4
20.6.2.3108(D)	Submit proof of public notice to the department after the public notice period	Section 9.5
20.6.2.3108(F)(1) - (F)(5)	Name and address of proposed discharger	Section 9.6, Appendix 9-1
20.6.2.3114	Fees	Section 1.3

1 INTRODUCTION

HollyFrontier Navajo Refining LLC (Navajo) hereby submits this Groundwater Discharge Plan as its application for renewal of and modification to the current Discharge Permit GW-028 (Discharge Permit) for its Artesia, New Mexico (NM), Refinery (the Refinery).[1] The current Discharge Permit was issued on May 25, 2017, and is set to expire on April 21, 2022, thereby triggering the requirement to submit a Renewal Application to the New Mexico Energy, Minerals & Natural Resources Department, Oil Conservation Division [OCD, Agency]). Navajo is submitting this Renewal Application by December 22, 2021 (120 days prior to the permit expiration date) so that, pursuant to Section 20.6.2.3106(G) of the New Mexico Administrative Code (NMAC), the existing Discharge Permit will remain in effect until a new Permit is issued.

1.1 PERMITTING HISTORY

The original Discharge Permit was issued on October 21, 1991, and was most recently renewed on May 25, 2017. During the course of the current Permit term, there were several permit modifications (approved June 29, 2017, October 25, 2018, December 14, 2018, and August 30, 2019) and an administrative amendment (approved September 22, 2021), including:

- Revision to Section 2.E.5 of the 2017 permit to state that the single annual report shall include a summary of all wastewater volumes disposed of, sold, or treated on-site.
- Revision to Section 4 of the 2017 permit to state that the construction start date deadline of October 31, 2017 will be the deadline for obtaining necessary permits and land-owner approvals for construction of an injection well and initiation of right-of-way work for the associated pipeline.
- Revision to Section 6 of the 2017 permit to state that the permittee shall submit a plan for characterization and abatement of vadose zone and groundwater contamination associated with the discharge of reverse osmosis (RO) reject fluids within 60 days of the cessation of the discharge of RO reject fluids to the ground surface at the facility.
- Revision to Section I.B of the 2017 permit to extend the deadline for Permitted Class I Disposal Well availability to December 31, 2018. This date was then revised a second time to extend the deadline to January 31, 2019.
- Revision to Section 4 of the 2017 permit to extend the deadline for completion of a new injection well and pipeline to December 31, 2018. This date was then revised a second time to extend the deadline to January 31, 2019.

[1]For ease of reference, this Groundwater Discharge Plan to renew Discharge Permit GW-028, which includes a modification request, will be referred to hereafter as "Renewal Application."

- Revision to Section 4 of the 2017 permit to state that discharge of RO reject fluids to the land ceased in January 2019 and is now managed via the four (4) permitted Class I non-hazardous deep well disposal well requirements.
- An administrative amendment proposing changes to the piping near the WDW-1 and WDW-4 wellheads was submitted to allow the necessary equipment changes to divert some of its treated effluent from the injection wells for reuse by third parties for oil and gas exploration and production-related uses.

1.2 Renewal Application Contents and Structure

This Renewal Application was developed based on the requirements set forth in the following forms and regulations:

- 20.6.2.3106 NMAC – Application for Discharge Permits, Renewals, and Applications
- 20.6.2.3107 NMAC – Monitoring, Reporting, and Other Requirements
- 20.6.2.3108 NMAC – Public Notice and Participation
- 20.6.2.3109 NMAC – Secretary Approval, Disapproval, Modification, or Termination of Discharge Permits, and Requirements for Abatement Plans
- OCD Form (unnumbered): *Ground Water Discharge Application/Plan Format Guidelines* (Revised September 2021)
- OCD Guidance: *Discharge Plan Application and Guidance Document for Refineries, Natural Gast Plants, Well Pad Tank Batteries, Gas Compressor Stations, Crude Oil Pump Stations, and Oil and Gas Service Companies* (Revised September 2021)

A regulatory cross-reference table indicating the sections of the Renewal Application that provide information required by the regulations is provided in the Checklist for Administrative Completeness and Regulatory Cross Reference Tables included as part of the Table of Contents of this Renewal Application.

An important component of this Renewal Application is the inclusion of the Renewable Diesel Unit (RDU), which is a new process unit located within the Refinery's process area but is operated by a separate HollyFrontier subsidiary, Artesia Renewable Diesel Company LLC (ARDC). Since the RDU and Refinery are co-located, and wastewaters from the RDU are being sent to the Refinery's wastewater treatment plant (WWTP), a single discharge permit is being pursued for the Refinery and RDU, as suggested by the OCD.

1.3 Filing and Permit Fees

In accordance with 20.6.2.3114(F) NMAC, Navajo has submitted separately the applicable permit modification filing fee ($100) and understands that a permit fee of $8,400 will be assessed upon approval of the Renewal Application.

2 FACILITY DESCRIPTION AND OWNERSHIP

The Refinery is located at 501 East Main Street in the City of Artesia, Eddy County, New Mexico, 88210 in the SE/4 of Section 1, E/2 of Section 8, W/2 of Section 9, N/2 of Section 12, Township 17 South, Range 26 East, New Mexico Principal Meridian (NMPM), Eddy County. The Refinery occupies approximately 580 acres northeast and southeast of the intersection of Highway 285 and Highway 82. The RDU is located within the Refinery's process area and comprises approximately two acres. Figure 2-1 is an aerial map showing the location of the Refinery, including the RDU, and the following features required to be depicted in a renewal application:

- location of fences
- pits
- berms
- tanks
- loading areas
- storage facilities
- disposal facilities
- processing facilities
- wastewater treatment facilities
- monitoring wells
- facility/property boundaries

An aerial photograph of the Evaporation Ponds is provided as Figure 2-2. An aerial photograph of the Refinery is provided in Figure 2-3; this Figure also shows locations of facilities relevant to management of the Refinery effluent, including the RO fluid reject stream (i.e., the four underground injection wells). Large scale topographic maps are provided in Figures 2-4 and 2-5.

2.1 FACILITY INFORMATION

Facility Name:	Artesia Refinery
Owner/Operator of Facility:	HollyFrontier Navajo Refining LLC
Facility Name:	Artesia Renewable Diesel Unit
Owner/Operator of Facility:	Artesia Renewable Diesel Company LLC
Facility Address:	501 East Main Street
Mailing Address:	P.O. Box 159
City, State, and U.S. Zip Code:	Artesia, New Mexico 88211-0159
Facility Phone Number:	575-748-3311
Latitude:	32.848593 º N (decimal degrees)
Longitude:	-104.394383º W (decimal degrees)

Refinery/RDU OGRID Number:	15694
Refinery NAICS Code:	324110
RDU NAICS Code:	325199
Refinery SIC Code:	2911
RDU SIC Code:	2869

2.2 FACILITY CONTACT

Primary Contact:	Kawika Tupou, Environmental Manager
Work Phone:	575-746-5487
Email:	Kawika.Tupou@HollyFrontier.com

2.3 FACILITY USE

The Refinery currently refines and processes up to 115,000 barrels per day (bbl/day) of crude oil and other feedstocks into asphalt, fuel oil, gasoline, diesel, jet fuel, and liquefied petroleum gas. Auxiliary activities associated with these processes' separate impurities from the feedstocks and products or are required for the operation and maintenance of the Refinery.

To supply water for the refining process, the Refinery currently operates a RO system to pre-treat fresh groundwater, either purchased from the City of Artesia or produced from the Refinery's deep artisan wells. The reject fluids generated by the RO system and treated effluent from the WWTP at the Refinery are authorized to be injected into permitted Class I non-hazardous deep well disposal wells to the southeast of the Refinery (WDW-1, WDW-2, WDW-3, and WDW-4). The reject water from the RO system was historically discharged to agricultural fields located north of the Refinery (the Refinery North and South RO Reject Fields) in accordance with previous discharge permits, but discharge ceased in January 2019. Navajo also diverts some of its treated refinery effluent from deep well injection at the wellhead of two of the Class I non-hazardous disposal wells (WDW-1 and WDW-4) for sale and reuse as product by third parties solely for oil and gas exploration and production-related uses. The Refinery will implement and utilize the Reuse Water Plan for this process that was approved by OCD on September 22, 2021.

The Refinery is in the process of constructing a 9,000 bbl/day RDU in the North Plant Process Area of the Refinery. The RDU will consist of a slop tank, cooling tower, processing unit, and feed tanks. The RDU is operated by ARDC, a separate subsidiary of HollyFrontier Corporation[1].

[1] Because both Navajo and ARDC are subsidiaries of HollyFrontier Corporation, and for ease of reference, they will both be referred to hereafter as Navajo.

Additionally, a 13,000 bbl/day Pre-Treatment Unit (PTU) is being constructed in the southern portion of the Refinery. The PTU will generate the feedstock for the RDU, which will be piped to the RDU through underground pipelines that cross East Main Street (US Highway No. 82). This feedstock consists of nonpetroleum renewable resources such as plant and animal-based oils and fats, including soybean oil, corn oil, and beef tallow. The primary end product produced at the RDU, referred to as R99, will be at least 99% renewable diesel, with a very small fraction ranging from 0.1% to 1% of ultra-low sulfur petroleum diesel blended with renewable diesel. The PTU is operated by Artesia PTU LLC (APTU). APTU will submit a separate Discharge Permit Application to address potential discharges from the PTU.

FIGURES FOR FACILITY DESCRIPTION AND OWNERSHIP

Figures

TRC - GIS

Coordinate System: NAD 1983 StatePlane New Mexico East FIPS 3001 Feet (Foot US)
Map Rotation: 0

Plot Date: 2/11/2022, 15:37:59 PM by MJAGOE -- LAYOUT: ANSI B (11"x17")
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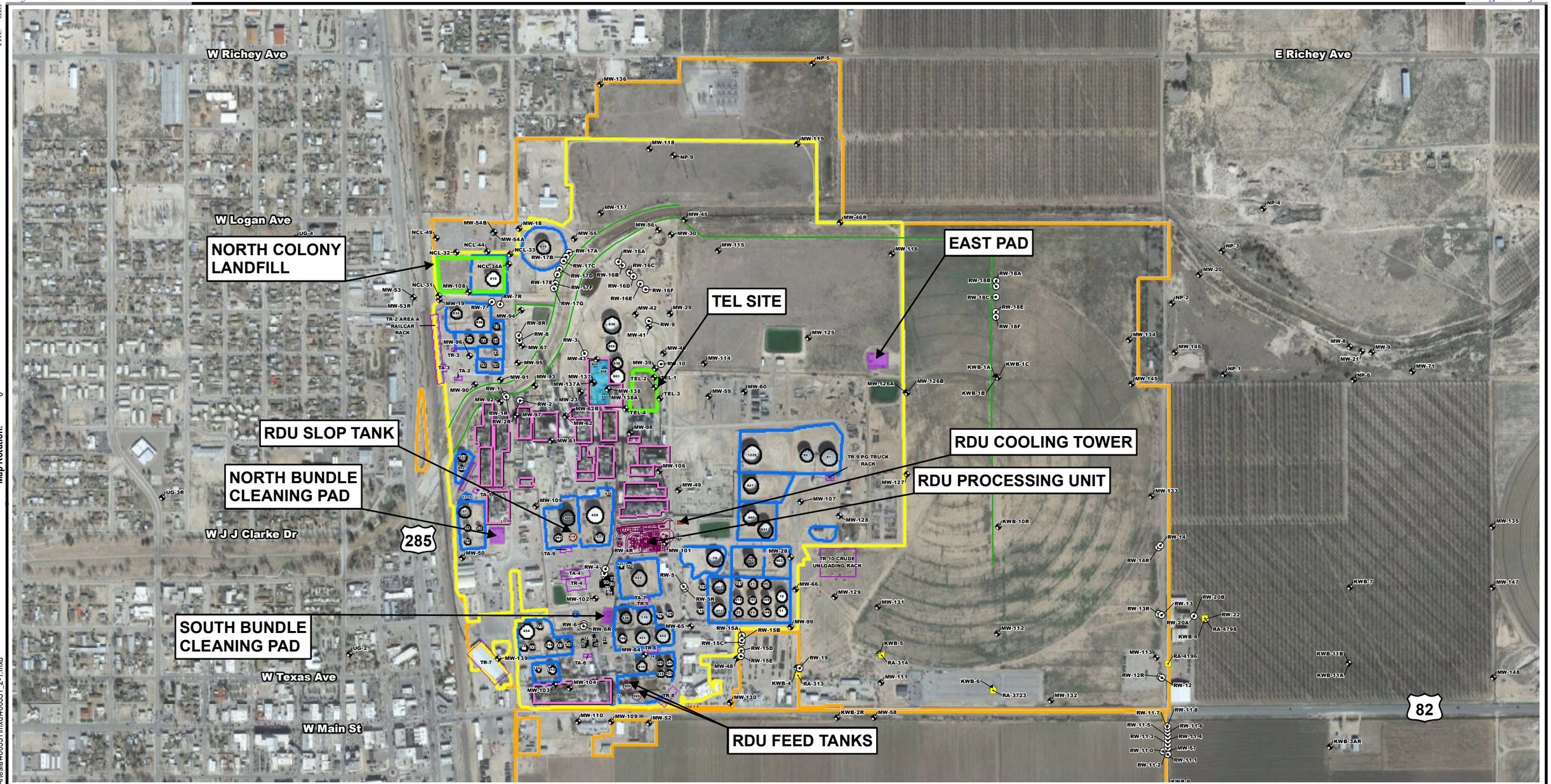

LEGEND

- MONITORING WELL
- RECOVERY WELL
- IRRIGATION WELL
- RDU PLOT PLAN
- EARTHEN BERM AND ROAD GRATES ALONG DRAW
- WASTEWATER TREATMENT PLANT
- PERMANENT HAZARDOUS WASTE CENTRAL ACCUMULATION AREAS
- PROCESSING AREAS
- HAZARDOUS WASTE MANAGEMENT UNITS - CLOSED
- TRANSFER AREA (TA)/TRANSFER RACK (TR)
- BERM
- TANK
- HFNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)
- FENCELINE

N

0 780 1,560 Feet

1 " = 780 '
1:9,360

SOURCE: GOOGLE AND THEIR DATA PARTNERS (10/18/2019)

PROJECT:
HOLLYFRONTIER NAVAJO REFINERY LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

TITLE:
FACILITY SITE PLAN

DRAWN BY:	M. JAGOE	PROJ NO.:	460331
CHECKED BY:			
APPROVED BY:			
DATE:	FEBRUARY 2022		

FIGURE 2-1

TRC
505 East Huntland Drive, Suite 250
Austin, TX 78752
Phone: 512.329.6080
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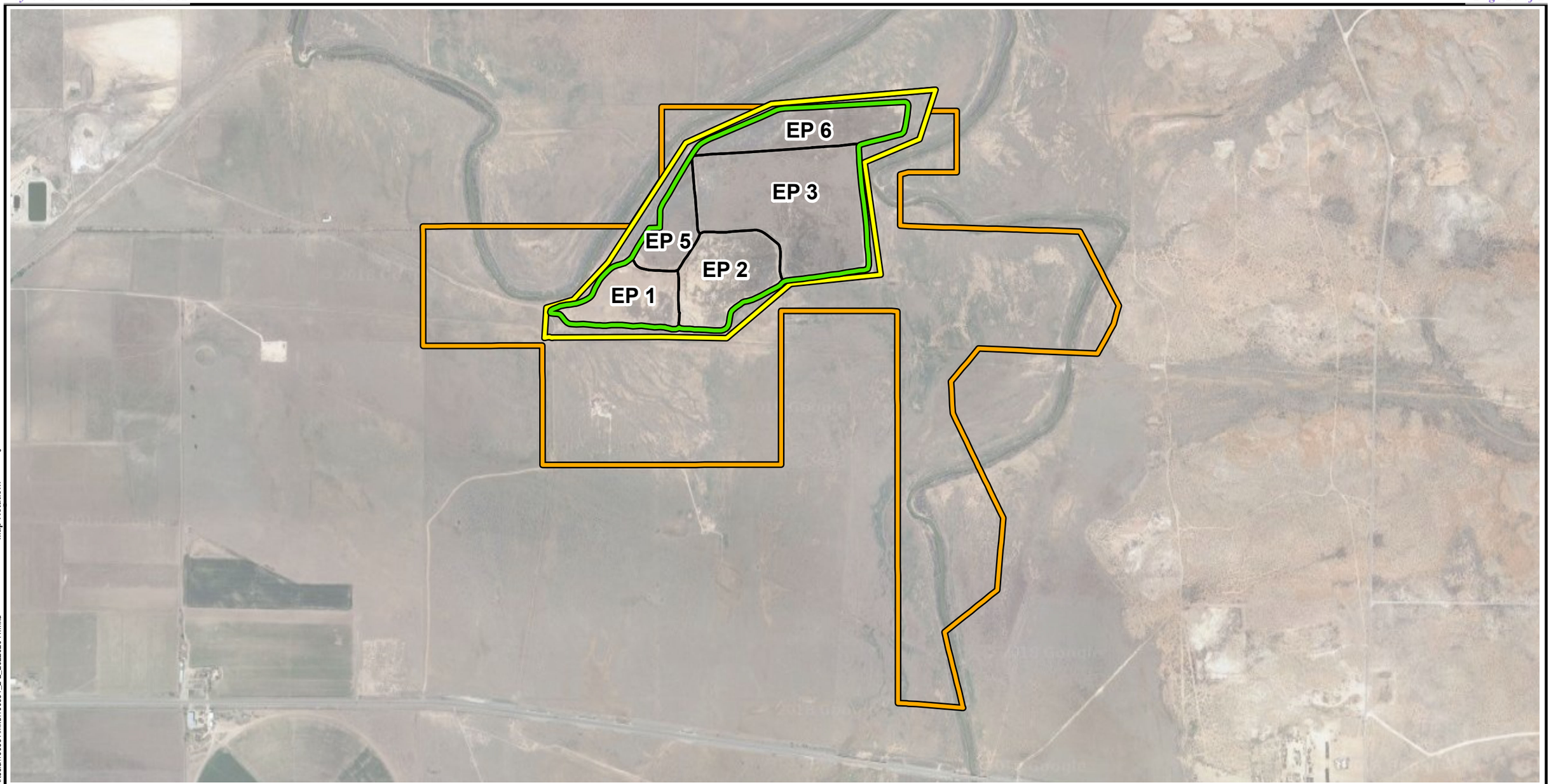
FILE NO.: 460331_2-1.mxd



LEGEND

- HAZARDOUS WASTE MANAGEMENT UNIT - INACTIVE
- EVAPORATION POND BOUNDARY
- FENCELINE
- PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

SOURCES: TRC, ESRI, WSP
BASEMAP: GOOGLE AND THEIR DATA PARTNERS (10/18/2019)

N

0 1,070 2,140 Feet

1 " = 1,070 '
1:12,840

PROJECT:
HOLLYFRONTIER NAVAJO REFINERY LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

TITLE:
FACILITY SITE PLAN - EVAPORATION PONDS

DRAWN BY:	M. JAGOE	PROJ. NO.:	460331
CHECKED BY:	M. WALTHER		
APPROVED BY:	M. WALTHER		**FIGURE 2-2**
DATE:	FEBRUARY 2022		

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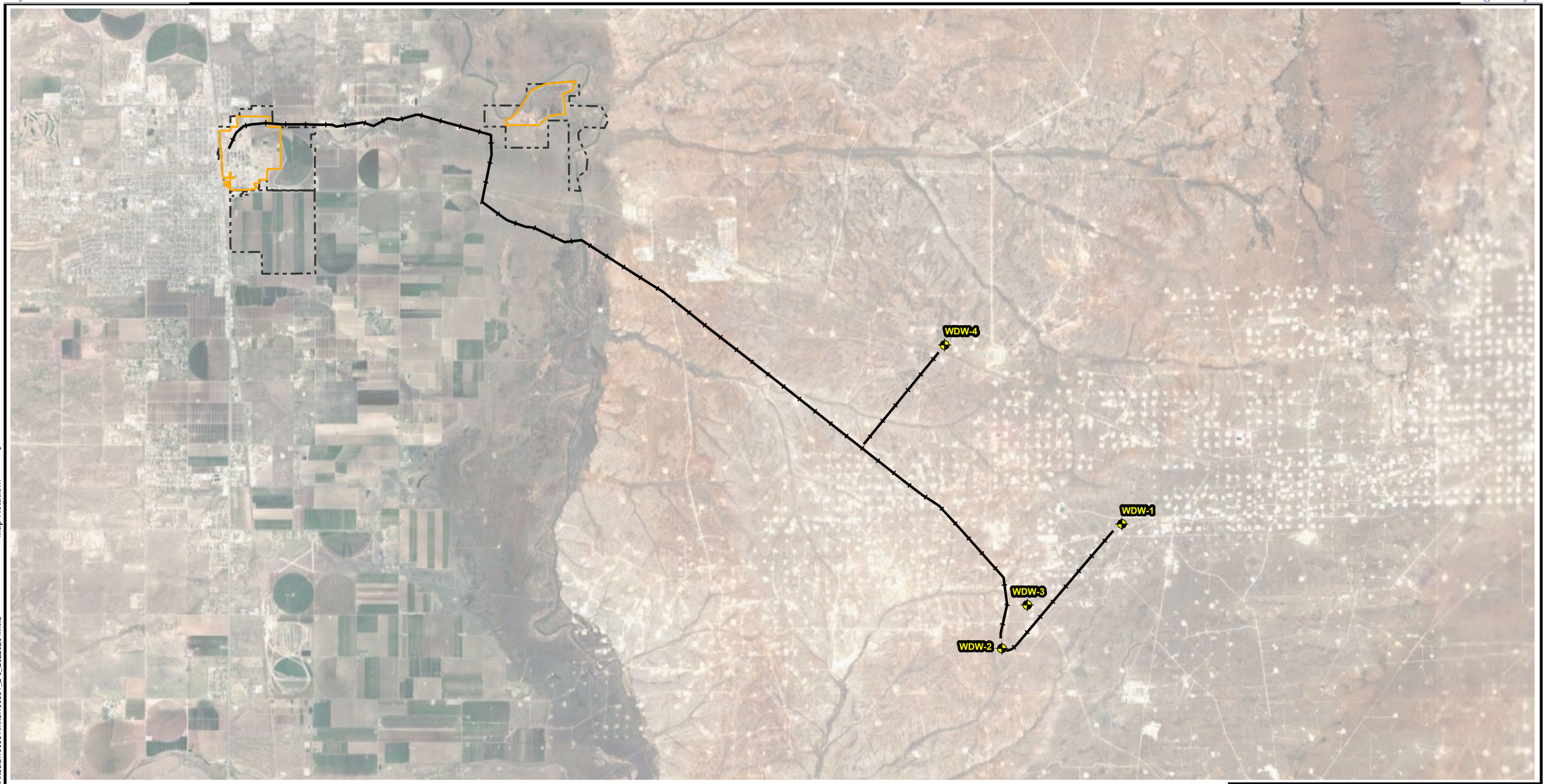
FILE NO.: 460331_2-2_202202041.mxd

Plot Date: 2/11/2022, 12:40:22 PM by MJAGOE -- LAYOUT: ANSI B(11"x17")
Path: S:\1-PROJECTS\HOLLY_ENERGY_PARTNERS\Artesia\460331\mxd\460331_2-2_202202041.mxd
Coordinate System: NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US (Foot US)
Map Rotation: 0

TRC - GIS



LEGEND

- DISPOSAL WELL
- APPROXIMATE NAVAJO PIPELINE
- REFINERY FENCELINE
- FACILITY PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

SOURCES: TRC, ESRI, WSP
BASEMAP: GOOGLE AND THEIR DATA PARTNERS (10/18/2019)

0 6,000 12,000 Feet

1 " = 6,000 '
1:72,000

PROJECT:
HOLLYFRONTIER NAVAJO REFINERY LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

TITLE:
FACILITY AND DISPOSAL WELL LOCATIONS

DRAWN BY:	M. JAGOE	PROJ. NO.:	460331
CHECKED BY:	R. SPRING		
APPROVED BY:	M. WALTHER		
DATE:	FEBRUARY 2022		

FIGURE 2-3

505 East Huntland Drive
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FILE NO.: 460331_2-3_20220204.mxd

Plot Date: 2/4/2022, 16:44:18 PM by MJAGOE – LAYOUT: ANSI B(11"x17")
Path: S:\1-PROJECTS\HOLLY_ENERGY_PARTNERS\Artesia\460331\mxd\460331_2-3_20220204.mxd
Coordinate System: NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US (Foot US)
Map Rotation: 0

Coordinate System: NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US (Foot US)
Map Rotation: 0
Plot Date: 2/4/2022, 16:39:12 PM by MJAGOE -- LAYOUT: ANSI B(11"x17")
Path: S:\1-PROJECTS\HOLLY_ENERGY_PARTNERS\Artesia\460331\mxd\460331_2-4_20220204.mxd

REFINERY/RDU

EVAPORATION PONDS

LEGEND

- FACILITY PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)
- REFINERY FENCELINE
- EVAPORATION POND BOUNDARY

SOURCE: USGS TOPO QUADS (SPRING LAKE, NM; ARTESIA, NM; ARTESIA NE, NM)

N

0 3,000 6,000 Feet

1 " = 3,000 '
1:36,000

PROJECT:
HOLLYFRONTIER NAVAJO REFINERY LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

TITLE:
REFINERY/RDU AND EVAPORATION PONDS TOPOGRAPHIC MAP

DRAWN BY:	M. JAGOE	PROJ. NO.:	460331
CHECKED BY:			
APPROVED BY:			**FIGURE 2-4**
DATE:	FEBRUARY 2022		

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Suite #250
Austin, TX 78752
Phone: 512.329.6080

FILE NO.: 460331_2-4_20220204.mxd

Coordinate System: NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US (Foot US)
Map Rotation: 0
Plot Date: 2/4/2022, 13:11:08 PM by MJAGOE – LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\HOLLY_ENERGY_PARTNERS\Artesia\460331\mxd\460331_2-5_20220204.mxd

LEGEND

- DISPOSAL WELL

SOURCE: BASE MAP USGS 7.5 MINUTE SERIES QUADS, RED LAKE AND SPRING LAKE QUADRANGLES, 1955, PHOTOREVISED 1983.

N

0 3,000 6,000 Feet

1 " = 3,000 '
1:36,000

PROJECT:
HOLLYFRONTIER NAVAJO REFINERY LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

TITLE:
INJECTION WELL TOPOGRAPHIC MAP

DRAWN BY:	M. JAGOE	PROJ. NO.:	460331
CHECKED BY:			
APPROVED BY:	M. WALTHER		**FIGURE 2-5**
DATE:	FEBRUARY 2022		

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FILE NO.: 460331_2-5_20220204.mxd

3 SITE CHARACTERISTICS

The following sections provide available geologic and hydrogeologic information regarding the Refinery, the effluent injection locations, and the RDU, and satisfies the Water Quality Control Commission (WQCC) regulations (20.6.2.3106(G) NMAC), which require that renewal applications include and address "all of the information necessary" for evaluation of a new discharge permit, including information on geology and hydrology.

3.1 RELEVANT INVESTIGATION AND DOCUMENTS

Extensive subsurface investigations have been completed across the Refinery. The methods and results of the most recent and pertinent assessments are contained in the following reports:

- *2020 Annual Groundwater Monitoring Report* (TRC, February 2021)
- *2021 Facility Wide Groundwater Monitoring Workplan* (TRC, June 2021) ("FWGMWP")
- *Stage 1 Abatement Plan for the Reverse Osmosis Reject Discharge Fields Discharge Permit GW-28* (Wood, March 2019)
- *Revised Contaminant Migration Evaluation Investigation Report* (Arcadis, April 2017)

3.2 TOPOGRAPHY AND VEGETATION

The Refinery is located on the east side of the City of Artesia (city) in the broad Pecos River Valley of Eastern New Mexico. The average elevation of the city is 3,380 feet above mean sea level (amsl). The plain on which the city is located slopes eastward at about 30 feet per mile.

The vegetation surrounding the city is typified by grasslands, desert vegetation, and irrigated farmlands, which include annual and permanent pastures. The areas north, south, and east of the Refinery are sparsely populated and used primarily for agricultural purposes. A majority of the land located east of the Refinery is cultivated as pecan orchards used for other agricultural purposes.

3.3 SURFICIAL SOILS

Surficial soil at the Refinery is predominantly comprised of approximately 60 percent (%) Pima series and 40% Karro series. The Pima and Karro series both consist of deep, well drained soils that formed in alluvial settings. Both soil types are calcareous and have slow to medium runoff.

3.4 NEARBY WATER FEATURES

Figure 3-1 shows the locations of streams, springs or other watercourses, and water wells within one mile of the site. There are no locations of intentional ground water discharge sites within one mile of the Refinery boundary. The existing groundwater monitoring wells around the Refinery and the RDU, and the RO Class 1 non-hazardous deep well disposal wells are shown in Figure 2 (Well Location Map) of the 2020 FWGMWP and Figures 2-1, 2-2 and 2-4 of this Renewal Application.

3.5 GEOLOGY

The City of Artesia is located on the northwest shelf of the Permian Basin. In this region, the deposits comprise of approximately 250 to 300 feet of Quaternary alluvium unconformably overlying approximately 2,000 feet of Permian clastic and carbonate rocks. These Permian deposits unconformably overlie Precambrian syenite, gneiss, and diabase crystalline rocks.

3.5.1 Quaternary Alluvium

The Quaternary alluvium in the Refinery area is dominantly comprised of clays, silts, sand and gravels deposited in the Pecos River Valley. These "valley fill" deposits extend in the north-south belt approximately 20 miles wide, generally west of the Pecos River. The thickness of the valley fill varies from a thin veneer on the western margins of the Pecos River valley to a maximum of 300 feet in depressions, one of which is located beneath the Refinery. These depressions have resulted from dissolution of the underlying Permian carbonates and evaporites.

3.5.2 Permian Artesian Group

The Permian Artesian Group is comprised of the following five formations from shallowest to deepest: the Tansill, Yates, Seven Rivers, Queen and Grayburg Formations. The Tansill and Yates Formations outcrop at the surface east of the Pecos River and are not present in the vicinity of the Refinery. The Seven Rivers Formation is present at an approximate depth of 300 feet in the area between the Pecos River and the Refinery. However, the Seven Rivers Formation thins and pinches to the west and it is not evident based on boring logs that this formation has been encountered beneath the Refinery process areas.

In the area of the Refinery, the Queen and Grayburg Formations have been mapped as a single unit consisting of approximately 700 feet of interbedded dolomite and calcareous dolomite, gypsum, finegrained sandstone, carbonates, siltstone and mudstone. In locations where the Seven Rivers Formation is absent, the upper portion of the Queen Formation acts as a confining bed between the deep artesian aquifer and the valley fill aquifer.

3.5.3 San Andres Formation

The San Andres Formation lies beneath the Grayburg and Queen Formations and immediately above the Precambrian crystalline basement rocks. The San Andres Formation is greater than 700 feet thick and composed mainly of limestone and dolomite with irregular and erratic solution cavities ranging up to several feet in diameter. The upper portion of the formation is composed of oolitic dolomite with some anhydrite cement.

3.6 HYDROGEOLOGY

The principal aquifers in the Artesia area are within the San Andres Formation and the quaternary "valley fill" alluvium. There are two distinct water-bearing zones within the valley fill alluvium in the vicinity of the Refinery and are referred to as the "shallow saturated zone" and the "valley fill zone". The deeper carbonate aquifer within the San Andreas Formation is referred to as the "deep artesian aquifer". Significant alteration of potential contaminants due to sorption, precipitation, or chemical reaction in the unsaturated zone, or expected reactions in the aquifer are not expected for the materials present at the Refinery/RDU.

3.6.1 Shallow Saturated Zone

The shallow saturated zone occurs in fractured caliche and interbedded sand and gravel channels at 10 to 30 feet below ground surface (bgs). Groundwater in this zone is under confined conditions for some or most of the year, with static water levels measured in groundwater monitoring wells 3 to 5 feet above the shallow saturated zone. The general direction of flow in this shallow saturated zone is to the east toward the Pecos River. Groundwater flow direction and gradient in the shallow saturated zone have remained generally consistent over time, as documented in previous annual groundwater monitoring reports.

Major sources of water in the shallow saturated zone are likely to be recharge from Eagle Creek and lawn watering runoff from the grass-covered urban park that occupies the Eagle Creek Channel immediately upstream of the Refinery. The water in the shallow saturated zone is highly variable in quality, volume, areal extent, and saturated thickness. Groundwater samples are collected during semi-annual sampling events and are submitted for laboratory analysis by the associated analytical methods in accordance with the FWGMWP (total dissolved solids [TDS] by Method 2540). Concentrations of TDS exceeding 4,000 milligrams per liter (mg/L) and sulfate exceeding 2,000 mg/L have been recorded in most of the wells located west and northwest (up-gradient) of the Refinery, which significantly exceed the WQCC standards of 1,000 mg/L for TDS and 600 mg/L for sulfate.

The shallow saturated zone contains phase-separated hydrocarbon (PSH) and dissolved-phase hydrocarbon constituents, as reported in the *2020 Annual Groundwater Monitoring Report.* With a few exceptions, concentrations of dissolved-phase hydrocarbon constituents in the shallow saturated zone are stable within the historical range of concentrations.

3.6.2 Valley Fill Zone

The valley fill zone underlies the shallow saturated zone and occurs in Quaternary alluvial deposits of sand, silt, clay and gravel. These sediments are about 300 feet thick near the Refinery.

Irrigation and water production wells completed in the valley fill zone are typically screened across one to five water-producing intervals ranging in thickness of 20 to 170 feet, with a majority of the thicknesses being closer to 20 feet. Production intervals are non-continuous, consist principally of sand and gravel, and are separated by less permeable lenses of silt and clay of varying thickness. Based on logs of wells located immediately to the north and east of the

Refinery, the thicknesses of silt and clay deposits range from 20 to 160 feet and are interspersed with thin zones of gravels in the upper 100 feet. Wells in the valley fill zone range from 40 to 60 feet bgs and the formation yields water containing TDS ranging from 1,500 to more than 7,000 mg/L.

The valley fill zone contains dissolved-phase hydrocarbon constituents, as reported in the *2020 Annual Groundwater Monitoring Report*. With a few exceptions, concentrations of dissolved-phase hydrocarbon constituents in the valley fill zone are stable within the historical range of concentrations.

The valley fill zone and the underlying San Andres aquifer are hydraulically connected in some areas.

3.6.3 Deep Artesian Aquifer

The deep artisan aquifer is closely related to the Permian San Andres Limestone and generally consists of one or more water-producing intervals of variable permeability located in the upper portion of the formation. However, in the Artesia area, the water-producing interval rises stratigraphically and includes the lower sections of the overlying Grayburg and Queen formations. Near the Refinery, the depth to the top of the water-producing interval is estimated to be about 440 feet bgs. The Seven Rivers formation and the other members of the Artesia Group are generally considered confining beds although some pumpage occurs locally from fractures and secondary porosity in the lower Grayburg and Queen members.

The deep artesian aquifer has been extensively developed for industrial, municipal, and agricultural use. TDS in this aquifer ranges from 500 mg/L to more than 5,000 mg/L depending on location. In the Artesia area, water from this aquifer is generally produced from depths ranging from 850 feet to 1,250 feet below ground surface. The aquifer recharges in the Sacramento Mountains to the west of Artesia. Extensive use of this aquifer in recent decades has lowered the potentiometric head in the aquifer in some locations from 50 to 80 feet bgs, although extensive rainfall in some years may bring the water levels in some wells close to ground surface.

3.7 SURFACE WATER DRAINAGE

Surface drainage in the region is dominated by minor ephemeral creeks and arroyos that flow eastward to the Pecos River, located approximately three miles east of the city. The major drainage feature in the immediate area of the Refinery is Eagle Creek, which runs southwest to northeast adjacent to the northern process area of the Refinery and then eastward to the Pecos River. Eagle Creek is an ephemeral watercourse that primarily flows only following rain events. Upstream of the Refinery, Eagle Creek functions as a major stormwater conveyance for the city. Eagle Creek also drains outlying areas west of the city and is periodically scoured by intense rain events.

Natural surface drainage at the Refinery is to the north and east. Stormwater within the process areas is captured and routed to the Refinery wastewater treatment system. Stormwater from non-process areas is contained within the Refinery property inside stormwater berms and

routed to one of the lined stormwater retention ponds, which have a capacity of approximately 30,000 bbls each. The locations of the stormwater retention ponds are shown on Figure 3-2.

A perimeter berm located along Eagle Creek prevents direct discharge of stormwater from within the Refinery boundary to Eagle Creek. Facility drainage is controlled by secondary containment structures, area grading, perimeter dikes, and on-site stormwater ponds. Changes in gradient at the Refinery are minimal and, as such, significant erosion and subsequent sediment transport are rare.

The berm along Eagle Creek is inspected quarterly. In addition, any areas within the Refinery identified as potential erosion and sediment sources are documented during stormwater inspections or general area inspections and are reported to the Environmental Department for corrective action. If areas of erosion will potentially allow direct discharge of stormwater to Eagle Creek, the corrective action for that area is immediately made a priority for maintenance activities.

The elevation of Eagle Creek is 3,360 feet amsl at its entrance to the Refinery and decreases to approximately 3,305 feet amsl at its confluence with the Pecos River. Eagle Creek was channelized from west of the city of Artesia to the Pecos River to help control and minimize flood events. In the vicinity of the Refinery, the Eagle Creek channel was cemented to provide further protection during flood events. A check dam was also constructed west of the city along Eagle Creek.

Based on National Oceanic and Atmospheric Administration (NOAA) data from 1981 to 2021, there have not been historical flood events at the Refinery. Federal floodplain maps indicate that most of the city and the Refinery have been effectively removed from the 100-year floodplain. Average monthly precipitation in the Refinery area is less than 3 inches.

3.8 GROUNDWATER

Routine groundwater monitoring of the shallow saturated zone is currently conducted at the Refinery in accordance with the current FWGMWP. The current groundwater monitoring program consists of synoptic gauging of all wells on a semi-annual basis and sampling select wells on a semi-annual, annual, or biennial basis. Groundwater samples are submitted to an independent commercial laboratory for analysis of chemicals of concern (COCs) as specified in the current FWGMWP, including volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), diesel range organics (DRO), gasoline range organics (GRO), total metals, dissolved metals (first semi-annual event only), cations, anions, nitrates/nitrites, cyanide, and/or TDS. Select groundwater samples will be analyzed for 1,4-dioxane, 1,2-dibromomethane (EDB), and tert-butyl alcohol (TBA). Laboratory analytical data reports and tabulated results of groundwater samples collected on a semi-annual, annual, or biennial basis are provided in the annual groundwater reports, with the most recent provided in Appendix C of the *2020 Annual Groundwater Monitoring Report* that was submitted to the OCD in February 2021. Groundwater monitoring data is maintained at the Refinery for a period of at least five years.

The groundwater monitoring and remediation program covers the following areas at the Refinery:

- The closed Tetra Ethyl Lead (TEL) Impoundment
- The closed North Colony Landfarm (NCL)
- The inactive Evaporation Ponds (EPs)
- Three Mile Ditch (TMD)
- The impacted vadose zone located beneath the Refinery in the following areas: Field east of the Refinery, North Refinery, South Refinery, RO Reject Fields, Cross-gradient of the Refinery, and Up-gradient of the Refinery.

TDS were detected in the groundwater at concentrations in exceedance of critical groundwater screening levels (CGWSLs). The average TDS concentration is approximately 4,700 mg/L at a depth of approximately 10 to 30 feet bgs. A summary of the most recent TDS results in the groundwater analytical data is provided in Table 4C of the *2020 Annual Groundwater Monitoring Report.* Maps of the TDS critical groundwater screening level exceedances from the most recent first and second semi-annual sampling events are provided as Figures 26 and 27 of the *2020 Annual Groundwater Monitoring Report.*

Due to the nature of Class I non-hazardous deep well disposal wells, it is unlikely that the shallow zone will be impacted. Groundwater that may be affected by a release near the well sites is as follows:

- WDW-1 – approximate TDS concentration of 2,000 ppm at a depth of approximately 100 ft bgs
- WDW-2 – approximate TDS concentration of 1,000 – 1,535 ppm at a depth of 100 ft bgs
- WDW-3 – approximate TDS concentration of 2,000 ppm at a depth of 100 ft bgs
- WDW-4 – approximate TDS concentration of 2,200 ppm at a depth of approximately 50-100 ft bgs

FIGURES FOR SITE CHARACTERTISTIC

Figures

Coordinate System: NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US (Foot US)
Map Rotation: 0

.25 MILE BUFFER (FROM FACILITY)

1 MILE BUFFER (FROM FACILITY)

EPHEMERAL STREAM

EPHEMERAL STREAM

LEGEND

WATER WELLS
- DOMESTIC AND LIVESTOCK WELL
- DOMESTIC (ONE HOUSEHOLD) WELL
- EXPLORATION WELL
- GEOTHERMAL BOREHOLE WELL
- INDUSTRIAL WELL
- IRRIGATION WELL
- MUNICIPAL WELL
- OBSERVATION WELL
- POLLUTION CONTROL WELL

- STREAM
- WETLANDS
- EVAPORATION POND BOUNDARY
- REFINERY FENCELINE
- FACILITY PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

N

0 2,530 5,060 Feet

1 " = 2,840 '
1:34,081

SOURCE: GOOGLE AND THEIR DATA PARTNERS (10/18/2019); NATIONAL HYDROGRAPHY DATASET (NHD) 2020

PROJECT:
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

TITLE:
FACILITY WATER SOURCES

DRAWN BY:	M. JAGOE	PROJ NO.:	460331
CHECKED BY:			
APPROVED BY:			
DATE:	FEBRUARY 2022		

FIGURE 3-1

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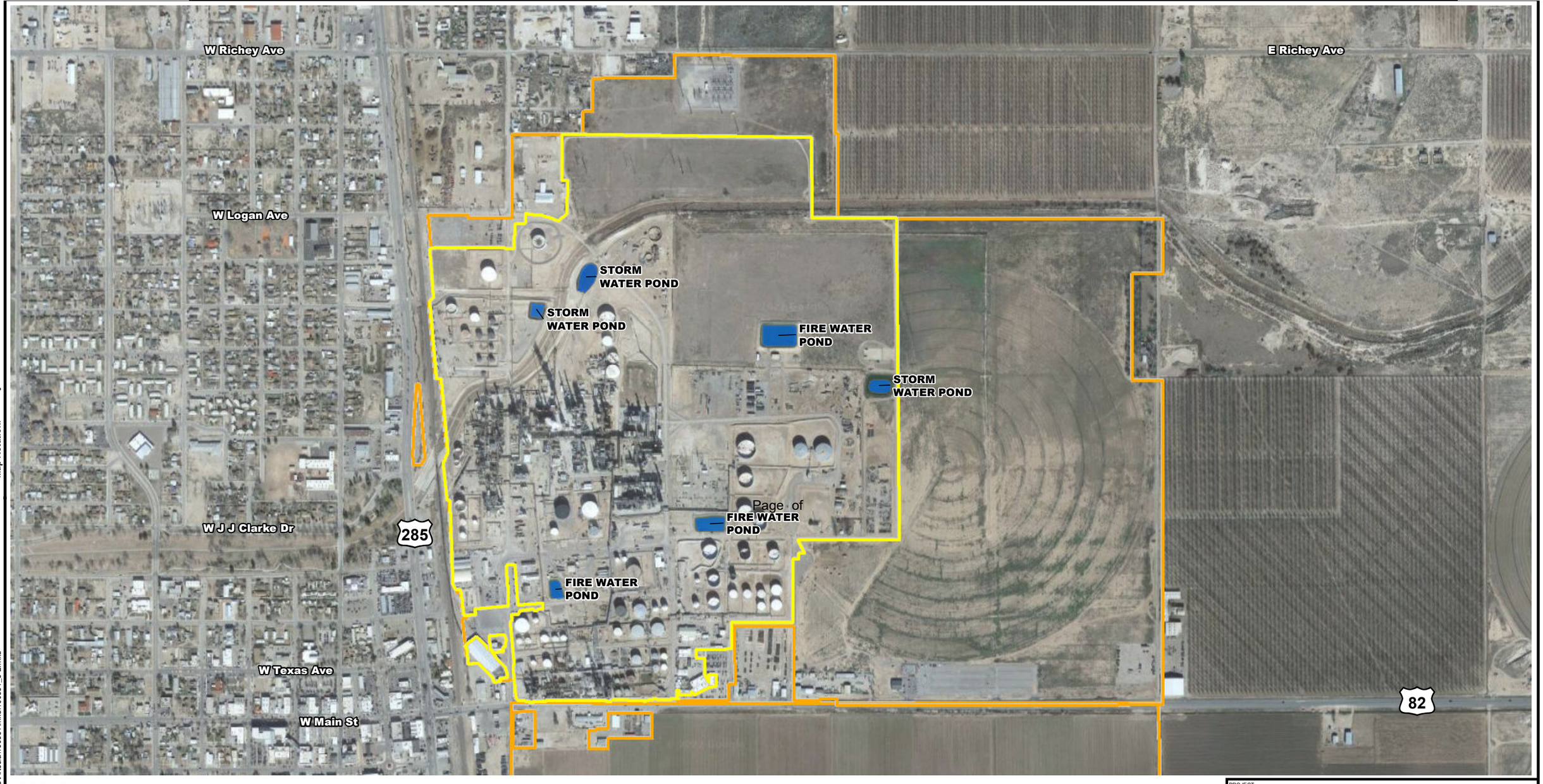

LEGEND

- PONDS
- FENCELINE
- HFNR PROPERTY BOUNDARY (FENCELINE SHOWN WHERE COINCIDENT)

N

0 780 1,560 Feet

1 " = 780 '

1:9,360

SOURCE: GOOGLE AND THEIR DATA PARTNERS (10/18/2019)

PROJECT:

HOLLYFRONTIER NAVAJO REFINERY LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

TITLE:

FACILITY PONDS

DRAWN BY:	M. JAGOE	PROJ NO.:	460331
CHECKED BY:			
APPROVED BY:	M. WALTHER		**FIGURE 3-2**
DATE:	FEBRUARY 2022		

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FILE NO.: 460331_3-2.mxd

Coordinate System: NAD 1983 StatePlane New Mexico East FIPS 3001 Feet (Foot US)
Map Rotation: 0

Plot Date: 2/14/2022, 11:55:57 AM by MJAGOE -- LAYOUT: ANSI B (11"x17")
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4 POTENTIAL OR INTENTIONAL DISCHARGES

This section of the Renewal Application addresses potential (unplanned) discharges to ensure that they do not adversely impact human health or the environment. There are no intentional (planned) discharges from the Refinery at the time of the submittal of this Renewal Application in December 2021.

4.1 STORAGE AND COLLECTION SYSTEMS

Materials stored at the Refinery that may present a risk to human health or the environment if unintentionally discharged include crude oil, asphalt, refinery intermediates, finished refinery products, process chemical additives, oil products, lubricating and hydraulic oils (new and used), molten sulfur, water system additives, refinery wastes, contaminated process water, contaminated stormwater, reject water from the RO system, and various non-petroleum-based oils and products associated with the RDU process. A detailed summary of materials stored in aboveground storage tanks (ASTs) and information about the materials and containers, including if liquid or solid, type of container, estimated volume storage, primary and secondary containment, and whether lined or unlined containment, is provided in Table 4-1. The location of each tank is shown on Figure 2-1.

The Refinery is subject to the oil pollution prevention regulations in Title 40 of the Code of Federal Regulations, Part 112 (40 CFR 112), which includes the development and implementation of a spill prevention, control, and countermeasures (SPCC) plan to both avert and respond to unintentional discharges of oil and oil-derived products. This includes the provision of adequate secondary containment to control an unintentional release and prevent it from migrating, as well as measures to remedy a release, should one occur. The Facility's current SPCC Plan is dated October 2021.

Hazardous wastes generated at the Refinery are stored at one of three permanent central accumulation areas (CAAs) pending offsite disposal. These include the North Bundle Cleaning Pad, the South Bundle Cleaning Pad, and the "Haz Pad" (also known as the "Roll Off Bin Staging Area", "Bin Pad", or the "East Pad") and are shown on Figure 2-1. The Refinery also maintains various satellite accumulation areas (SAAs) for the collection of small quantities of hazardous wastes near the point of generation prior to transfer to a CAA. Additional information on hazardous wastes at the Refinery is provided in Section 4.3.1.

4.2 INTENTIONAL DISCHARGES

There are no intentional discharges from the Refinery. Any discharge at the Refinery would be unintentional and could consist of any of the process materials listed in the section above or in Table 4-1. More information is provided in the next section.

Navajo historically intentionally discharged reject water from the RO system to agricultural fields located north of the Refinery (the Refinery North and South RO Reject Fields), but discharge ceased in January 2019.

4.3 POTENTIAL DISCHARGES

4.3.1 Reverse Osmosis Process Summary

Navajo operates three RO units to remove dissolved solids from incoming fresh water by passing high-pressure feed water through a series of filter elements that contain a semi-permeable RO membrane. This membrane prevents large molecules, or dissolved solids, from passing through the membrane, but does allow smaller water molecules to pass through the membrane. The clean water then becomes the RO permeate, or product water (suitable for use in critical needs for boiler steam generation and cooling tower operation), while the concentrated, dissolved solids in the feed water becomes the RO concentrate, or reject. Each of the Refinery's RO units function similarly in the pre-treatment of fresh groundwater.

4.3.2 Water Volume and Quality

The volume of RO reject fluid generated is a factor of the volume of groundwater processed through the RO system. The volume of groundwater processed through the three RO units at the Refinery is reviewed weekly by reading the water meters. From January 2021 to February 2022, the average volume is 398 gpm, and the maximum volume is 1,191 gpm of groundwater processed through the RO units. Typically, RO systems are designed to operate at 75% recovery, meaning 75% of the feed water flow will be treated for use at the Refinery and the remaining 25% of the feed flowrate will be the RO reject stream, which is co-mingled with Refinery effluent from the on-site wastewater treatment plant (WWTP). The daily throughputs of effluent wastewater going to the WWTP is reviewed daily by reading water meters. From January 2021 to February 2022, the average volume is 13 gpm, and the maximum is 20 gpm. Combined effluent flow measurements from the Refinery to the four permitted underground injection control (UIC) wells are included in the required annual report to OCD due on March 15th annually. The *2021 Annual Discharge Permit Report* was submitted to OCD on March 15, 2021.

The RO reject fluids are co-mingled with the Refinery WWTP effluent prior to discharge to the four permitted Class I non-hazardous deep well disposal wells. The combined effluent is sampled on a quarterly basis for inorganics (major anions and cations), solids (TDS), general and physical parameters (pH, conductivity, hardness, specific gravity, alkalinity and viscosity), metals, and organics in accordance with the requirements in the Permits for the four permitted underground injection control Class I non-hazardous deep well disposal wells (Underground Injection Control Permit Nos. UICI-8-1, UICI-8-2, UICI-8-3, and UICI-8-4).

Navajo continues to monitor groundwater quality in accordance with the facility-wide groundwater monitoring plan to ensure that historical field disposal is not affecting groundwater quality. At the time of this Renewal Application submittal, the most recent report containing groundwater quality information is the *2020 Annual Groundwater Monitoring Report* submitted to OCD in February 2021.

4.3.3 Disposal of RO Reject Fluids and Refinery Effluent

Discharge Permit GW-028 currently authorizes the underground injection of up to 15,000 bbl/day (630,000 gallons per day [gpd]) of RO reject fluids and Refinery effluent into Class I non-

hazardous deep well disposal wells (WDW-1, WDW-2, WDW-3, and WDW-4) located off of the Refinery property. The locations of these wells are included on Figure 2-2. The RO reject fluids are comingled with treated effluent from the WWTP before injection. Navajo maintains separate permits issued by the OCD that allows the use of these wells for deep well disposal, primarily for treated effluent from the WWTP at the Refinery (Permit Nos. UICI-8-1, UICI-8-2, UICI-8-3, and UICI-8-4). Discharge Permit Nos. UICI-8-1, UICI-8-2, and UICI-8-3 expire on December 11, 2022. Discharge Permit No. UICI-8-4 expires on December 14, 2022. The Refinery complies with the operating requirements specified to ensure that only Resource Conservation and Recovery Act (RCRA)-exempt or non-hazardous, non-exempt oil field waste fluids are injected.

WDW-1

The daily flow rate of the injection well has averaged 360,240 gpd for months January to June 2021. The well is discharge permitted to inject at a maximum pressure of 1,585 pounds per square inch (psi). The high TDS wastewater effluent is injected into the Wolfcamp, Cisco, and Canyon Formations in the injection interval of 7,924 to 8,476 ft bgs.

WDW-2

The daily flow rate of the injection well has averaged 119,040 gpd for months January to June 2021. The well is discharge permitted to inject at a maximum of 1,514 psi. The high TDS wastewater effluent is injected into the Wolfcamp, Cisco, and Canyon Formations in the injection interval of 7,570 to 8,399 ft bgs.

WDW-3

The daily flow rate of the injection well has averaged 151,920 gpd for months January to June 2021. The well is discharge permitted to inject at a maximum of 1,530 psi. The high TDS wastewater effluent is injected into the Wolfcamp, Cisco, and Canyon Formations in the injection interval of 7,660 to 8,620 ft bgs.

WDW-4

The daily flow rate to the injection well has averaged 269,520 gpd for months January to June 2021. The well is permitted to inject at a maximum of 2,080 psi. the high TDS wastewater effluent is injected into the Devonian Formation in the injection interval from 7,924 ft to 8,476 ft bgs.

The co-mingled WWTP effluent and RO reject is transported to the Class I non-hazardous deep well disposal wells via pipeline. The wells are located approximately 11.5 miles east of the Refinery. There is a potential for discharge of the effluent if the pipeline should experience a breach of integrity. Pipeline pressures are continually monitored to identify if such a breach occurs and the pipeline is immediately shut down. Initial response includes the removal of any ponded effluent and excavation of impacted soils. Following pipeline repair and initial response activities, the releases are investigated and/or remediated via the C-141 response protocol. Additional information is provided in Section 6 and 8 of this Renewal Application.

4.3.4 Typical Hazardous Waste Streams

Hazardous wastes generated at the Refinery are presented in Table 4-2. These wastes are segregated from each other and managed at one of three permanent CAAs or one of the SAAs used for collection of hazardous wastes prior to transfer to a CAA. The CAAs are operated in accordance with the provisions of 40 CFR 262.17, while the SAAs are maintained and operated in accordance with the requirements of 40 CFR 262.15. This includes the requirement that containers of hazardous waste of 55 gallons or more be shipped offsite for disposal within 90-days.

The hazardous wastes listed in Table 4-2 may be present at the Refinery at any time, though the type and quantity may vary due to routine fluctuations in Refinery operations. Navajo performs analysis of the generated wastes and maintains waste profiles and analytical data on all waste streams present at the Refinery. Samples are collected using any of the specific methods provided in 40 CFR 261, Appendix I. Because of the fluctuation of the types and volumes of wastes present, this data has not been included in this Renewal Application. This data is maintained by the Refinery's Environmental Department and can be made available upon request.

4.3.5 Typical Non-Hazardous Waste Streams

Additional non-hazardous materials that may be present at the Refinery include paper, wood, plastics, and other general materials generated by industrial activities. A list of general industrial activities performed at the Refinery, and their associated pollutants, is provided in Table 5-1.

4.3.6 Wastewater Sales

Navajo plans to divert some of its treated refinery effluent from deep well injection at the wellhead to two of the Class 1 non-hazardous deep well disposal wells (WDW-1 and WDW-4) for sale and reuse as product by third parties solely for oil and gas exploration and production related uses. Navajo water sales meters will serve as the location of transfer of ownership of the reuse water. There is the potential for a release to occur at or before the custody transfer location. If a release is to occur after the custody transfer location, on or off of Navajo property, it's the contractual responsibility of the reuse water initial purchaser.

4.3.7 Stormwater

Refinery activities onsite that are potentially exposed to stormwater are: tank storage of chemicals, raw materials and finished products; equipment storage yards; truck and train unloading and loading; vehicle and equipment fueling and maintenance; storage of hazardous and non-hazardous waste containers; maintenance of closed impoundments (now vegetated and maintained under post-closure care); and movement of materials around the facility. Additional information on the industrial activities exposed to stormwater, the areas of the site where potential spill/leaks could occur, and the associated discharge points are provided in Table 5-1.

4.3.8 Disposal

Hazardous and non-hazardous wastes are shipped off-site via truck to approved and permitted RCRA Subtitle C and Subtitle D facilities. Navajo maintains and conducts a program

for review and approval of waste disposal transporters and vendors to ensure wastes are properly disposed.

The Refinery treats process wastewater and collected stormwater in various wastewater treatment units at the Refinery's WWTP. In addition, discharge from various industrial activities at the Refinery are contained and sent to the WWTP. A list of industrial activities at the Refinery that could be associated with a potential discharge that will be diverted to the WWTP is discussed further in Section 5 and Table 5-1. The WWTP at the Refinery consists of primary and secondary oil/water/solids separation (gravitational and air flotation), equalization, and tertiary aggressive biological treatment. Oil that is recovered from the wastewater treatment system American Petroleum Institute (API) separator is diverted to the Slop Oil Tank. The contents of the Slop Oil Tank are subsequently returned to the refining process. Currently, the Refinery is authorized to discharge up to 15 gallons per minute (21,600 gallons per day) of treated wastewater and 150 gpm (216,000 gallons per day) of cooling tower blowdown to the local publicly owned treatment works (POTW). Treated wastewater that is not sent to the POTW is pumped via pipeline to the Class I non-hazardous deep well disposal wells (WDW-1, WDW-2, WDW-3, and WDW-4) discussed in Section 4.2.3.

4.4 GROUNDWATER MONITORING

The current FWGWMP includes an extensive network of monitoring and/or recovery wells that consolidates activities relating to the existing Discharge Permit GW-028, as well as the Refinery's RCRA Permit and associated corrective action investigations and corrective measures. In general, semi-annual (spring, fall) monitoring activities for wells currently encompass level-gauging (groundwater and PSH, where present) of monitoring and recovery wells and collection of groundwater samples from monitoring wells and select recovery and off-site agricultural irrigation wells. Section 3 (Site Characteristics) identifies figures featuring the locations of existing water wells and groundwater monitoring wells at the Refinery. The Refinery gives prior notice to OCD (and to the New Mexico Environmental Department [NMED]) with respect to the semi-annual groundwater sampling events. Results of all monitoring and analysis activities are reported on an annual basis (in the *Annual Groundwater Monitoring Report*) to OCD and NMED.

4.4.1 Sample Collection and Analysis

Groundwater samples are submitted to an independent commercial laboratory for analysis of COCs as specified in the current FWGMWP, including VOCs, SVOCs, DRO, GRO, total metals, dissolved metals (first semi-annual event only), cations, anions, nitrates/nitrites, cyanide, and/or TDS. Select groundwater samples will be analyzed for 1,4-dioxane, EDB, and TBA. Laboratory analytical data reports and tabulated results of groundwater samples collected on a semi-annual, annual, or biennial basis are provided in the annual groundwater reports, with the most recent being Appendix C of the *2020 Annual Groundwater Monitoring Report* that was submitted to the OCD in February 2021.

4.4.2 Groundwater Contamination

The following COCs were detected in groundwater at concentrations in exceedance of their respective CGWSL:

- Total petroleum hydrocarbons (TPH), GRO, and DRO
- Select VOCs including target COCs benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl ether (MTBE), and naphthalene
- Select total metals including target COC arsenic
- Water quality parameters chloride, fluoride, sulfate, TDS, and nitrate/nitrite

SVOCs were also detected in groundwater at concentrations in exceedance of their respective CGWLS in samples collected from select North Refinery wells. Additional groundwater and remediation activity information is provided in the *2020 Annual Groundwater Monitoring Report.*

TABLES FOR POTENTIAL OR INTENTIONAL DISCHARGES

Tables

Table 4-1. Storage Tanks and Containers

Tank Number	Tank Contents	Solid/Liquid	Tank Capacity (Gallons)	Secondary Containment Type	Lined/Unlined Secondary Containment
11	Gasolines	Liquid	1,323,000	Earthen Berm	Unlined
12	Gasolines	Liquid	1,323,000	Earthen Berm	Unlined
18	Slop	Liquid	10,500	Earthen Berm	Unlined
20	Gasolines	Liquid	2,100,000	Earthen Berm	Unlined
21	Gasolines	Liquid	2,100,000	Earthen Berm	Unlined
22	Gasolines	Liquid	2,100,000	Earthen Berm	Unlined
23	Gasolines	Liquid	2,100,000	Earthen Berm	Unlined
40	Spent Caustic	Liquid	30,660	Earthen Berm	Unlined
41	Spent Caustic	Liquid	30,660	Earthen Berm	Unlined
45	Butane	Liquid	N/A	Earthen Berm	Unlined
46	Butane	Liquid	N/A	Earthen Berm	Unlined
48	Butane	Liquid	N/A	Earthen Berm	Unlined
49	Slop	Liquid	28,014	Concrete Berm	Unlined
55	Distillates	Liquid	453,600	Earthen Berm	Unlined
56	Naphthas	Liquid	453,600	Earthen Berm	Unlined
59	Distillates	Liquid	197,400	Earthen Berm	Unlined
61	Distillates	Liquid	407,400	Earthen Berm	Unlined
63	Black Oil	Liquid	420,000	Earthen Berm	Unlined
65	Black Oil	Liquid	435,960	Earthen Berm	Unlined
71	Propane	Liquid	N/A	Earthen Berm	Unlined
72	Propane	Liquid	N/A	Earthen Berm	Unlined
73	Propane	Liquid	N/A	Earthen Berm	Unlined
74	Propane	Liquid	N/A	Earthen Berm	Unlined
75	Black Oil	Liquid	793,800	Earthen Berm	Unlined
76	Propane	Liquid	N/A	Earthen Berm	Unlined
77	Propane	Liquid	N/A	Earthen Berm	Unlined
79	Gasolines	Liquid	3,393,600	Earthen Berm	Unlined
81	Asphalt/Pitch	Liquid	4,200,000	Earthen Berm	Unlined

Table 4-1. Storage Tanks and Containers (cont.)

Tank Number	Tank Contents	Solid/Liquid	Tank Capacity (Gallons)	Secondary Containment Type	Lined/Unlined Secondary Containment
82	Asphalt/Pitch	Liquid	2,520,000	Earthen Berm	Unlined
106	Sour Water/Diesel	Liquid	945,000	Earthen Berm	Unlined
107	Gasolines	Liquid	945,000	Earthen Berm	Unlined
108	Gasolines	Liquid	945,000	Earthen Berm	Unlined
109	Gasolines	Liquid	945,000	Earthen Berm	Unlined
110	Asphalt/Pitch	Liquid	2,268,000	Earthen Berm	Unlined
111	Gasolines	Liquid	382,200	Earthen Berm	Unlined
112	Gasolines	Liquid	382,200	Earthen Berm	Unlined
114	Butane	Liquid	N/A	Earthen Berm	Unlined
115	Butane	Liquid	N/A	Earthen Berm	Unlined
116	Butane	Liquid	N/A	Earthen Berm	Unlined
117	Gasolines	Liquid	649,740	Earthen Berm	Unlined
119	Butane	Liquid	N/A	Earthen Berm	Unlined
124	Gasolines	Liquid	281,400	Earthen Berm	Unlined
400	Gas Oils	Liquid	4,065,012	Earthen Berm	Unlined
401	Gasolines	Liquid	2,310,000	Earthen Berm	Unlined
402	Gasolines	Liquid	2,310,000	Earthen Berm	Unlined
410	Asphalt/Pitch	Liquid	1,295,700	Earthen Berm	Unlined
411	Gasolines	Liquid	2,184,000	Earthen Berm	Unlined
412	Gasolines	Liquid	2,184,000	Earthen Berm	Unlined
413	Distillates	Liquid	945,000	Earthen Berm	Unlined
415	Gasolines	Liquid	1,050,000	Earthen Berm	Unlined
417	Gasolines	Liquid	390,600	Earthen Berm	Unlined
418	Distillates	Liquid	1,050,000	Earthen Berm	Unlined
419	Distillates	Liquid	432,600	Earthen Berm	Unlined
420	Fuel Oil	Liquid	344,400	Earthen Berm	Unlined
422	Black Oil	Liquid	344,400	Earthen Berm	Unlined
423	Black Oil	Liquid	344,400	Earthen Berm	Unlined
431	Fuel Oil	Liquid	1,923,600	Earthen Berm	Unlined
432	Fuel Oil	Liquid	1,923,600	Earthen Berm	Unlined

Table 4-1. Storage Tanks and Containers (cont.)

Tank Number	Tank Contents	Solid/Liquid	Tank Capacity (Gallons)	Secondary Containment Type	Lined/Unlined Secondary Containment
433	Gas Oils	Liquid	3,045,000	Earthen Berm	Unlined
434	Distillates	Liquid	3,192,000	Earthen Berm	Unlined
435	Sour Water/Diesel	Liquid	210,000	Earthen Berm	Unlined
437	Crude Oil	Liquid	3,360,000	Earthen Berm	Unlined
438	Gas Oils	Liquid	2,289,000	Earthen Berm	Unlined
439	Naphthas	Liquid	4,531,800	Earthen Berm	Unlined
450	Naphthas	Liquid	3,383,940	Earthen Berm	Unlined
451	Biodiesel	Liquid	287,868	Earthen Berm	Unlined
452	Ethanol	Liquid	287,868	Earthen Berm	Unlined
464	RO Permeate	Liquid	846,006	Earthen Berm	Unlined
465	Fresh Water	Liquid	N/A	Earthen Berm	Unlined
737	Sour Water/Diesel	Liquid	840,000	Earthen Berm	Unlined
801	Wastewater	Liquid	2,268,000	Earthen Berm	Unlined
802	Sour Water/Diesel	Liquid	420,000	Earthen Berm	Unlined
806	Wastewater	Liquid	33,600	Earthen Berm	Unlined
809	Treated Wastewater	Liquid	35,700	Earthen Berm	Unlined
814	Asphalt/Pitch	Liquid	420,000	Earthen Berm	Unlined
815	Distillates	Liquid	3,696,000	Earthen Berm	Unlined
821	Gasolines	Liquid	3,024,756	Earthen Berm	Unlined
829	Wastewater	Liquid	1,249,920	Earthen Berm	Unlined
830	Stormwater	Liquid	4,200,000	Earthen Berm	Unlined
834	Distillates	Liquid	1,680,000	Earthen Berm	Unlined
835	Distillates	Liquid	2,856,000	Earthen Berm	Unlined
836	Wastewater	Liquid	1,279,320	Earthen Berm	Unlined
838	Distillates	Liquid	1,255,800	Earthen Berm	Unlined
904	Animal Fats/Vegetable Oils	Liquid	1,176,000	Earthen Berm	Unlined
905	Animal Fats/Vegetable Oils	Liquid	1,176,000	Earthen Berm	Unlined
914	Renewable Diesel	Liquid	992,376	Earthen Berm	Unlined

Table 4-1. Storage Tanks and Containers (cont.)

Tank Number	Tank Contents	Solid/Liquid	Tank Capacity (Gallons)	Secondary Containment Type	Lined/Unlined Secondary Containment
1223	Caustic	Liquid	84,000	Earthen Berm	Unlined
1225	Crude Oil	Liquid	4,200,000	Earthen Berm	Unlined
1227	Asphalt/Pitch	Liquid	1,260,000	Earthen Berm	Unlined
7107	Treated Wastewater	Liquid	139,650	Earthen Berm	Unlined
Mobile Containers	Various Oil Products	Liquids and Solids	55 - 330	Varies	N/A

Table 4-2. Typical Hazardous Wastes

Waste Type/ Name[1]	RCRA Waste Code and Hazard	Location of Generation or Storage[2]	Approximate Maximum Quantity (Lbs)
API Separator Sludge	K051, Hexavalent chromium, Lead	NCL	40,000
Heat Exchanger Bundle Cleaning Sludge	K050, Hexavalent chromium	NCL CAA	100,000
Refinery Sewer Sludge	F037, Benzene, Benzo(a)pyrene, Chrysene, Lead, Chromium	Sewer cleanouts, sumps, CAA	450,000
Tetraethyl Lead	D008, P110, Lead	TEL Site	20,000
Alky Unit Cleanout Sludge, Corrosive waste, not otherwise specified	D002, Corrosivity	CAA	150,000
Reactive Sulfide-Bearing filters from the North Plant, Reactive waste, not otherwise specified	D003, Reactivity	CAA	75,000
Tank Sludge, Scale, Sediments, and Soil Containing Benzene, Toxic waste (benzene), not otherwise specified	D018, Benzene	CAA	220,000
Clarified Slurry Oil Storage Tank Sediment and/or In-Line Filter/Separation Solids	K170, Benzo(a)pyrene, Dibenz(a,h)anthracene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, 3-Methylcholanthrene, 7,12-Dimethylbenz(a,h)anthracene	CAA	25,000
Spent Hydrotreating and Hydrorefining Catalysts	K171, K172, Benzene, Arsenic	CAA	350,000
Ignitable waste, not otherwise specified	D001, Ignitability	CAA	250,000
Toxic waste (mercury), not otherwise specified	D009, Mercury	CAA	5

[1] Hazardous wastes are not comingled at the Refinery.
[2] The NCL and TEL Site are former hazardous waste management units (HWMUs). Both units have completed the RCRA closure process for HWMUs with wastes left in place. The NCL and TEL Site are capped to prevent any releases of waste materials.

API = American Petroleum Institute
CAA = Central Accumulation Area
Lbs = Pounds
NCL = North Colony Landfarm
RCRA – Resource Conservation and Recovery Act
TEL = Tetraethyl Lead

5 COLLECTION AND STORAGE SYSTEMS

5.1 POTENTIAL POLLUTANT SOURCES

The areas leaks/spills of potential pollutants associated with industrial activities at the Refinery could occur, and the associated discharge points, are provided in Table 5-1.

5.2 TANK AND CHEMICAL STORAGE AREAS

All bulk oil storage containers at the Refinery are provided sufficient secondary containment for a 25-year, 24-hour storm event plus the contents of the single largest tank in the secondary containment area, if shared. A complete list of bulk oil storage containers and a detailed description of the secondary containment provided at the Refinery is provided in the October 2021 *Spill Prevention, Control, and Countermeasure Plan* and in Table 4-1 of this Renewal Application.

The Refinery and RDU process areas include oil-filled manufacturing equipment such as vessels, reactors, heat exchangers, distillation columns, and others. This equipment is located within an area that is contained by the Refinery's wastewater system. Any spills or leaks from this equipment would be collected in sewer drains or sumps and routed to the WWTP. The wastewater treatment system includes Tank 801, which has a capacity of 2,268,000 gallons, or 54,000 bbls, and is large enough to contain the volume of the largest processing unit.

Stormwater accumulates on-site and either evaporates, flows to the on-site stormwater ponds, or is directed to the on-site WWTP. Stormwater collected in process unit areas is directed to the WWTP through the sewer system. Bulk storage tanks are in secondary containment primarily constructed of soil and, in some cases, concrete or other impervious material. Stormwater collected within tank containments is managed by evaporation, infiltration, or removal by vacuum truck.

The Refinery also uses a significant number of mobile and portable containers (55-gallon drums, 250-gallon totes, and 330-gallon totes) which are stored upon entry at the Main Warehouse and are then transferred for use at various locations throughout the Refinery. The exact number and location of these containers varies greatly over time but is estimated to be approximately between 300 and 600 drums and totes. These containers are stored in sized secondary containment or with some other means of preventing a release from leaving the Refinery or entering a navigable water.

5.3 BURIED PIPING

Navajo has prepared a master list of underground piping at the Refinery, and leak detection testing of these lines is performed on a periodic basis to ensure structural integrity. Leak testing is performed in accordance with industry standards. If any line leaks are detected, corrective action including repair or replacement will be undertaken. When possible, underground piping will be replaced with aboveground piping.

Integrity testing of underground piping is conducted during modification, relocation, or replacement. Any buried piping that is exposed is carefully examined for deterioration and corrective action is taken as necessary.

The transfer/circulation of oil product to and from the RDU is connected through a series of underground pipelines that are encased in two 36-inch diameter steel pipes and enter/exit the Refinery from a concrete vault located just north of East Main Street. A concrete sump along the bottom of the concrete vault is fitted with a pump so that excess stormwater or a potential release can be removed via vacuum truck as needed. The concrete vault is located within an earthen bermed containment area that is capable of preventing a release from leaving the Refinery.

Wastewaters from process units, cooling towers, boiler, streams from water purification units, desalting units, recovered and treated groundwater are pumped via subsurface pipelines from the Refinery WWTP before disposal or injection to Class 1 non-hazardous deep well disposal wells (WDW-1, WDW-2, WDW-3, and WDW-4) and the City POTW.

TABLES FOR COLLECTION AND STORAGE SYSTEMS

Tables

Table 5-1. Potential Pollutants and Discharge Points

Industrial Activity	Associated Pollutants	Discharge Point
Truck or tank car unloading/loading	Crude oil, asphalt, finished refinery products, process chemical additives, lubrication and hydraulic oils (new and used), molten sulfur, waste materials	Into secondary containment, stormwater ponds or collected and transported to the WWTP – no direct discharge from the facility
Transfer of raw materials, intermediates, final products, process additives, auxiliary system chemicals and additives by pumps/piping or manual transfer (drums, totes, etc.)	Crude oil, asphalt, refinery intermediates, finished refinery products, process chemical additives, oil products, lubricating and hydraulic oils (new and used), molten sulfur, water system additives, refinery wastes	Into secondary containment, stormwater ponds or process water sewers that are piped to the WWTP – no direct discharge from the facility
Refinery processes	Raw materials, intermediates, final products, waste products, contaminated process water, contaminated stormwater	Into process water sewers that are piped to the WWTP– no direct discharge from the facility
Wastewater Treatment	Crude oil, asphalt, refinery intermediates, finished refinery products, process chemical additives, oil products, lubricating and hydraulic oils (new and used), molten sulfur, water system additives, refinery wastes, contaminated process water, contaminated stormwater	Conducted within Refinery secondary containment and transported via pipeline to the City POTW or the Class I non-hazardous deep well disposal wells – no direct discharge from the facility
Storage of material in tanks, drums, totes and other containers	Crude oil, asphalt, refinery intermediates, finished refinery products, process chemical additives, oil products, lubricating and hydraulic oils (new and used), molten sulfur, water system additives, refinery wastes, contaminated process water, contaminated stormwater	Into secondary containment, stormwater ponds or process water sewers that are piped to the WWTP – no direct discharge from the facility
Equipment and associated maintenance activities	Metals, lubrication and hydraulic oils (new and used), process wastes, process area contaminated stormwater	Into secondary containment, stormwater ponds or process water sewers that are piped to the WWTP – no direct discharge from facility
Vehicle fueling/maintenance activities	Fuel (gasoline or diesel), lubrication and hydraulic oils (new and used), grease, vehicle wash water, coolant, sediment	Into secondary containment, stormwater ponds or process water sewers that are piped to the WWTP – no direct discharge from the facility

Table 5-1. Potential Pollutants and Discharge Points (cont.)

Industrial Activity	Associated Pollutants	Discharge Point
Equipment Laydown Areas	Oil and grease, sediment	Into stormwater ponds or process water sewers that are piped to the WWTP – no direct discharge from the facility
Vehicle Traffic	Sediment	Into stormwater ponds or process water sewers that are piped to the WWTP – no direct discharge from the facility

6 INSPECTION, MAINTENANCE, AND REPORTING

6.1 INSPECTIONS

Effluent Discharge System

Navajo complies with the operating, inspection, and maintenance requirements for injection to the Class 1 non-hazardous deep well disposal wells (WDW-1, WDW-2, WDW-3, and WDW-4) set forth in UIC Well Discharge Permit Numbers UICI-8-1, UICI-8-2, UICI-8-3, and UICI-8-4. Navajo ensures the injection pressure on the Class 1 non-hazardous deep well disposal wells, as measured at the surface, shall not exceed the following gauge pressures:

- WDW-1 – 1,585 psi
- WDW-2 – 1,514 psi.
- WDW-3 – 1,530 psi
- WDW-4 – 2,080 psi

Navajo has equipped the wells with a pressure limiting device and inspects the device daily. Any pressure exceedances will be reported to OCD within 24-hours of detection.

The wells are considered to have mechanical integrity if there is no detectable leak in the casing, tubing, or packer which OCD considers to be significant at maximum operating temperature and pressure, and no detectable conduit for fluid movement out of the injection zone through the well bore, or vertical channels adjacent to the well bore, which the OCD considers to be significant. Mechanical Integrity Testing (MIT) is conducted at least once every five years by applying a pressure of at least 500 psig to the casing/tubing annulus from the surface to the injection packer for at least 30 minutes. The MIT passes if there is a less than a 10% change in the final test pressure compared to the starting pressure. The results will be submitted to OCD within 30 days of completion. The Refinery is also required to conduct a Bradenhead test at least annually and each time that it conducts an MIT. If the MIT indicates failure, the Refinery will immediately shut-in the well, investigate, and notify the OCD within 24-hours. The Refinery will not resume injection operations until approved by OCD. The Refinery also performs fall-off testing on an annual basis. The Refinery complies with OCD's 2007 UIC Class I Well Fall-Off Test Guidance for conducting and reporting the test. The Refinery will notify OCD five working days prior to conducting any MIT to allow the opportunity to witness.

To prevent an unintentional discharge from the effluent discharge system piping within the Refinery, the system components are inspected and maintained by Refinery personnel to ensure proper functioning and to prevent any unintentional leaks of the effluent. The Refinery Operations Department conducts inspections of the effluent system during each 12-hour shift, including monitoring of pressure gauges. If pressure at the discharge outlet is elevated, the discharge pipeline will be cleaned to remove accumulated scaling. Pipelines from the effluent system to the injection wells are visually inspected for evidence of leaks on a weekly basis. If any leaks are detected,

corrective action, including repair, will be undertaken as soon as practicable. Thorough monthly inspections are conducted and maintained at the Refinery for a period of three years.

Treated Refinery Effluent

Navajo plans to diverts some of its treated refinery effluent from deep well injection at the wellhead of two of the Class I non-hazardous disposal wells (WDW-1 and WDW-4) for sale and reuse as product by third parties solely for oil and gas exploration and production-related uses.

The well site will be inspected daily for any evidence of leaks/spills, the presence of liquids in the secondary containment, and the condition of the piping connection. An example well site inspection checklist can be found in Appendix 6-1.

Refinery/RDU Piping

The transfer/circulations of oil product to and from the RDU is conducted through a series of underground pipelines that are encased in two 36-inch diameter steel pipes and enter/exit the Refinery from a concrete vault located just north of East Main Street. A concrete sump along the bottom of the concrete vault is fitted with a pump so that excess stormwater or a potential release can be removed via vacuum truck as needed. The concrete vault is located within an earthen bermed containment area that is capable of preventing a release from leaving the Refinery.

Wastewaters from process units, cooling towers, boilers, water purification units, desalting units, and recovered and treated groundwater are pumped from the WWTP via subsurface pipelines from the Refinery to the Class 1 non-hazardous deep well disposal wells (WDW-1, WDW-2, WDW-3, and WDW-4).

In addition to weekly visual inspections, a master list of underground piping at the Refinery/RDU has been created, and leak detection testing of these lines is performed on a regular basis to ensure structural integrity upon the start of RDU operation. If any leaks are detected, corrective action, including repair or replacement, will be undertaken as soon as practicable. If a section of buried pipe is exposed, it is carefully examined for deterioration and corrective action is taken as necessary. RDU tanks are also visually inspected by Refinery/RDU personnel once per month.

Example monthly inspection forms can be found in Appendix 6-2. Records of each inspection will be maintained on file at the Refinery/RDU for a minimum period of three years.

Hazardous Wastes

The NCL, TEL Site, and EPs 2 through 6 (three closed and inactive hazardous waste management units [HWMUs] at the Refinery) are inspected at least semi-annually and after storm events yielding four or more inches of precipitation in 24 hours or less (i.e., the 24-hour, 25-year rain event for Artesia, NM). Inspections will focus on identifying potential malfunctions, deterioration, operator errors, and discharges which may be causing (or may lead to) release of hazardous waste constituents to the environment or pose a threat to human health. The NCL, TEL, and EPs 2 through 6 have no operating equipment so the inspections are primarily focused on

security (fences, gates, locks, signs), dikes, caps and covers (if any), run-on/run-off drainage systems (if any), and monitoring wells. Any necessary repairs are made as soon as practicable after identification.

The NCL and TEL have completed the RCRA closure process and are currently in post-closure care; therefore, releases of hazardous wastes from these units is unlikely The EPs are inactive and currently in the closure process. Wastes were left in place in contained areas of the NCL and the TEL, and the units were covered as part of the closure process to prevent any migration of waste materials or constituents. The TEL site has an engineered cap to minimize the potential for human and wildlife exposure to waste that remains in place, and the NCL has a secondary containment berm and a vegetated cover to minimize wind- and surface water-borne erosion that may cause exposure to wastes. The caps are regularly inspected and maintained. No wastes were left in place at the Evaporation Ponds.

Note that Tank 815, an 80,000 bbl tank used to store Ultra Low Sulfur Diesel fuel, associated tank secondary containment berms, and ancillary tank equipment is located within the eastern half of the NCL boundary. The tank, secondary containment, and tank equipment is regularly inspected to quickly detect any needed repairs or releases. Any releases from Tank 815 will be contained within the secondary containment system for the tank and the NCL.

All inspections will be recorded in an inspection log to be retained for at least three years from the date of the inspection. Example inspection logs for the NCL, TEL Site, and EPs 2 through 6, and Tank 815are provided in Attachment 6-3.

The three permanent CAAs at the Refinery (the North Bundle Cleaning Pad, the South Bundle Cleaning Pad, and the "Haz Pad" also known as the "Roll Off Bin Staging Area", "Bin Pad", or the "East Pad") are operated in accordance with 40 CFR 262.17. At least weekly, these areas are inspected for leaking containers caused by corrosion or other factors. If the containers holding wastes are not in good condition, or if they begin to leak, the waste is immediately transferred to a container that is in good condition.

Tanks

The inspection and testing requirements described in API Standard 653 - Tank Inspection, Repair, Alteration, and Reconstruction are followed for any work performed on field-constructed tanks at the Refinery. Tanks constructed at the Refinery are built to the API Standard 650 – Welded Steel Tanks for Oil Storage. Copies of tank inspection and certification for service are kept in the Tank Inspection Department's files.

Navajo utilizes Praxair TracerTight® leak detection technology on all of its tanks. TracerTight® is a non-volumetric test method that utilizes tracer compounds and can be applied to USTs, ASTs, and Pipelines. The methodology is third-party evaluated with a leak sensitivity of 0.05 gph with a probability of detection (PD) of 97.1% and a probability of false alarm (PF) of 2.9%. The method is accepted and listed by the United States Environmental Protection Agency (U.S. EPA) National Work Group of Leak Detection Evaluations (NWGLDE).

If a leak is detected, the Praxair system inoculates the tank with a small amount of a tracer compound into the fuel of the storage tank and samples are then collected from vapor sampling probes for the presence or non-presence of the tracer compound. TracerTight® does not require the tank to be taken out of service during the test. If the presence of the tracer compound is confirmed, tank inspectors are immediately notified. Tank inspectors will then run tests to further confirm the leak, and if confirmed, materials will be removed from the tank, and the tank will be considered out of service until it has been repaired. Navajo inspects the Praxair system of approximately 20% of the storage tanks at the Refinery every year.

Visual inspections (called walk-around inspections) are performed daily, at a minimum, and can happen up to six times a day depending on that day's operations. These inspections cover all facets of Facility operations including tanks and secondary containment areas and are performed by Facility operators assigned to that section of the Facility. Anything that appears out of the ordinary will be reported for further investigation. In the event that a small spill is discovered, actions to contain and remove the spilled liquids will commence immediately upon discovery. These inspections are not formally documented unless a spill or an item that needs correction is found.

In addition to daily inspections, all bulk tanks and containment areas will be inspected every month by trained personnel. Corrective actions that are identified during inspections will be noted in the Enablon database or entered into the work order system for prompt attention. Records of the inspections will be maintained on file at the Facility for a minimum period of three years. Blank example monthly inspection forms can be found in Appendix 6-2. Results of the tank inspections along with any recommendations for improvement are outlined in a memorandum which is forwarded to management personnel, including the Supervisor of Maintenance, to identify resources and a schedule for necessary repairs and to prioritize the completion of necessary repairs.

6.2 MAINTENANCE

Routine inspections of Refinery and RDU processes are conducted by Refinery personnel as described in Section 6.1 above. If during these inspections, deficiencies are identified, the supervisor in charge of the area is notified and he/she is responsible for initiating and implementing required corrective action. The Refinery also conducts maintenance operations on an ongoing basis as needed and in general accordance with industry standards. All Refinery equipment is included in a comprehensive maintenance program to ensure that the equipment is periodically inspected and maintained in good operating conditions in accordance with the manufacturer's recommendations and best commercial practices. Documentation of completed maintenance and repair activities is maintained at the Facility.

6.3 STORMWATER MANAGEMENT

Precipitation and runoff drainage systems at the facility are designed to reduce stormwater discharge from the property, with most contact stormwater entering the contained WWTP. Grading, berms, and curbs are used to prevent uncontrolled runoff and to divert run-on to the Refinery. Control of stormwater at the site ensures that any unintended releases within the process

areas without dedicated secondary containment are captured within the Refinery boundaries.

Observations of all general process areas at the Refinery are performed by Operations during each shift, with stormwater-specific inspections and maintenance of drains, swales, berms, ponds, and secondary containment areas being conducted at least quarterly to ensure that stormwater flows properly, and drainage can occur as designed. If any repairs or replacements of stormwater controls are needed, they will be completed as soon as feasible, but no later than 14 days after identification of a need for corrective action, or if that is infeasible (and the reason is documented), within 45 days.

Due to the redundancy of controls at the Refinery, no runoff flows off-site from Navajo property. Berms and curbs are located around the perimeter of the Refinery and along both the Eagle Draw/Creek except for at two road crossings. The location of the berms at the Refinery are shown on Figure 2-1 of this Renewal Application. The Refinery is designed so that the natural drainage (berming and swales situated on either side of Eagle Draw and Clarke Draw) directs spills to redundant secondary containment areas. Redundant containment is provided by a plant ditch and several retention ponds, constructed primarily for stormwater collection and containment. If the capacity of the ponds is exceeded, the overflow would discharge to Navajo-owned farmland immediately adjacent to the Refinery property to the east. This acreage is diked on the low side of the field to prevent any discharge to surface waters from Navajo property. The Refinery has not had the need to discharge from this Navajo-owned farmland to date.

6.4 GROUNDWATER MONITORING AND REPORTING

Facility-wide groundwater monitoring is conducted to identify releases at the Refinery; to evaluate the presence, nature, and extent of groundwater impacts; and to support remediation impaired groundwater. The groundwater monitoring program consists of semi-annual well gauging and groundwater sampling and analysis conducted in accordance with the *Facility-Wide Groundwater Monitoring Work Plan*. Navajo submits an *Annual Groundwater Monitoring Report* to the OCD to document groundwater monitoring and recovery activities conducted at the Refinery. These groundwater monitoring results are also used as a means to identify any releases at the Refinery. If an increase in PSH or other constituents of concern are observed, the Refinery promptly works to identify the source of the increase.

Monitoring requirements for the Class 1 non-hazardous deep well disposal wells (WDW-1, WDW-2, WDW-3, and WDW-4) are addressed in the UIC Well Discharge Permits (Permit Numbers UICI-8-1, UICI-8-2, UICI-8-3, and UICI-8-4).

APPENDICES FOR INSPECTION, MAINTENANCE, AND REPORTING

Appendices

6-1 HFNR Reuse Water Daily Checklist

6-2 Example Inspection Forms - RDU and Tanks

6-3 Example Inspection Forms - HWMU and Tank 815

APPENDIX 6-1

HFNR REUSE WATER DAILY CHECKLIST

HOLLYFRONTIER

HollyFrontier Navajo Refining LLC
Reuse Water Well Site Daily Inspection Checklist

Water Sales Transfer Location: WDW-

Inspector Name:

Inspection Date:

Water Meter Reading:

Item	Yes/No/NA	Describe corrective action items requested, and who is responsible	Date requested	Past corrective action items completed? (Yes/No)
1. Are gates secured and locked?				
2. Are there any leaks or evidence of spills?				
3. Are piping connections (valves, fittings, pumps, etc.) free of visible leaks?				
4. Does secondary containment have any collected liquid that needs to be pumped out? If “yes” schedule a vac truck for removal to Artesia Refinery WWTS				
5. Is secondary containment free of debris, cracks, corrosion, erosion, fire hazards or other integrity issues?				
6. Are the sample ports and valves in the closed position when not in use?				
7. Have valves been checked to prevent backpressure on pipeline?				
8. Is the customer piping in good condition without any leaks?				

HOLLYFRONTIER

HollyFrontier Navajo Refining LLC
Reuse Water Well Site Daily Inspection Checklist

Item	Yes/No/NA	Describe corrective action items requested, and who is responsible	Date requested	Past corrective action items completed? (Yes/No)
9. Check and note the Annulus Tank level				
10. Is the system free of any other conditions that need to be addressed for continued safe operation?				
11. Is the site clean and free of any trash?				
12. Does roll off trash bin need to be emptied?				

APPENDIX 6-2

EXAMPLE INSPECTION FORM - RDU AND TANKS

HOLLYFRONTIER

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Refinery
Blender Tank Farm (Sections D and E)

INSTRUCTIONS

At least once a month, visually inspect bulk storage containers (aboveground storage tanks, totes, drums), associated piping, oil-filled equipment and secondary containments using this checklist. Retain completed checklists for at least 3 years.

Notes:

- The visual inspection is intended to monitor the external condition of the equipment and its containment, and does not require a Certified Inspector. The inspection shall be performed by qualified facility personnel.
- Non-conforming items important to aboveground storage tank integrity require evaluation by an engineer experienced in tank design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action(s) in the comment section.
- After severe weather (snow, ice, wind storms) or maintenance (such as coating) that could affect the operation of critical components (normal and emergency vents, valves), an inspection of these components is required as soon as the equipment is safely accessible after the event.

INSPECTION DATE (MM/YYYY):	INSPECTOR NAME/TITLE:

ABOVEGROUND STORAGE TANKS:

#	INSPECTION ITEM	TANK ID AND STATUS										COMMENTS/ DATE CORRECTED
		T-11	T-12	T-79	T-81	T-82	T-107	T-108	T-109	T-117	T-401	T-402	
1	Is tank exterior (roof, shell, heads, bottom, connections, fittings, valves, etc.) free of visible leaks? *If "No", identify tank and describe leak and actions taken.*	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
2	Is the tank liquid level gauge legible and in good working condition?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
3	Is the area around the tank (concrete surfaces, ground, containment, etc.) free of visible signs of leakage?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

HOLLYFRONTIER

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Refinery
Blender Tank Farm (Sections D and E)

#	INSPECTION ITEM	TANK ID AND STATUS											COMMENTS/ DATE CORRECTED
		T-11	T-12	T-79	T-81	T-82	T-107	T-108	T-109	T-117	T-401	T-402	
4	Is overfill prevention equipment in good working condition? *If it is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
5	Are piping connections to the tank (valves, fittings, pumps, etc.) free of visible leaks? *If "No", identify location and describe leak.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
6	Is the containment free of excess liquid, debris, cracks, corrosion, erosion, fire hazards and other integrity issues? *Upon discovery of liquids, inspect the fluids, check for leaks (as applicable), and dispose of liquids properly.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
7	Is the system free of any other conditions that need to be addressed for continued safe operation?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

ABOVEGROUND STORAGE TANKS - CONTINUED:

#	INSPECTION ITEM	TANK ID AND STATUS										COMMENTS/ DATE CORRECTED
		T-411	T-412	T-437	T-450	T-821	T-1225					
1	Is tank exterior (roof, shell, heads, bottom, connections, fittings, valves, etc.) free of visible leaks? *If "No", identify tank and describe leak and actions taken.*	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
2	Is the tank liquid level gauge legible and in good working condition?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	

HOLLYFRONTIER

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Refinery
Blender Tank Farm (Sections D and E)

#	INSPECTION ITEM	TANK ID AND STATUS										COMMENTS/ DATE CORRECTED
		T-411	T-412	T-437	T-450	T-821	T-1225					
3	Is the area around the tank (concrete surfaces, ground, containment, etc.) free of visible signs of leakage?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
4	Is overfill prevention equipment in good working condition? *If it is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
5	Are piping connections to the tank (valves, fittings, pumps, etc.) free of visible leaks? *If "No", identify location and describe leak.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
6	Is the containment free of excess liquid, debris, cracks, corrosion, erosion, fire hazards and other integrity issues? *Upon discovery of liquids, inspect the fluids, check for leaks (as applicable), and dispose of liquids properly.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
7	Is the system free of any other conditions that need to be addressed for continued safe operation?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

INSPECTOR SIGNATURE: _____

HOLLYFRONTIER

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Refinery
North Plant North Tank Farm and CBO Rack (Sections A and B)

INSTRUCTIONS

At least once a month, visually inspect bulk storage containers (aboveground storage tanks, totes, drums), associated piping, oil-filled equipment and secondary containments using this checklist. Retain completed checklists for at least 3 years.

Notes:

- The visual inspection is intended to monitor the external condition of the equipment and its containment, and does not require a Certified Inspector. The inspection shall be performed by qualified facility personnel.
- Non-conforming items important to aboveground storage tank integrity require evaluation by an engineer experienced in tank design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action(s) in the comment section.
- After severe weather (snow, ice, wind storms) or maintenance (such as coating) that could affect the operation of critical components (normal and emergency vents, valves), an inspection of these components is required as soon as the equipment is safely accessible after the event.

INSPECTION DATE (MM/YYYY):	INSPECTOR NAME/TITLE:

ABOVEGROUND STORAGE TANKS:

#	INSPECTION ITEM	TANK ID AND STATUS										COMMENTS/ DATE CORRECTED
		T-18	T-58	T-59	T-61	T-63	T-65	T-75	T-815	T-834	T-835	T-838	
1	Is tank exterior (roof, shell, heads, bottom, connections, fittings, valves, etc.) free of visible leaks? *If "No", identify tank and describe leak and actions taken.*	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
2	Is the tank liquid level gauge legible and in good working condition?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
3	Is the area around the tank (concrete surfaces, ground, containment, etc.) free of visible signs of leakage?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

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MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Refinery
North Plant North Tank Farm and CBO Rack (Sections A and B)

#	INSPECTION ITEM	TANK ID AND STATUS										COMMENTS/ DATE CORRECTED
		T-18	T-58	T-59	T-61	T-63	T-65	T-75	T-815	T-834	T-835	T-838	
4	Is overfill prevention equipment in good working condition? *If it is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
5	Are piping connections to the tank (valves, fittings, pumps, etc.) free of visible leaks? *If "No", identify location and describe leak.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
6	Is the containment free of excess liquid, debris, cracks, corrosion, erosion, fire hazards and other integrity issues? *Upon discovery of liquids, inspect the fluids, check for leaks (as applicable), and dispose of liquids properly.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
7	Is the system free of any other conditions that need to be addressed for continued safe operation?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

INSPECTOR SIGNATURE: _____

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MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Refinery
Refinery Wide Mobile Containers and Oil-Filled Equipment

INSTRUCTIONS

At least once a month, visually inspect bulk storage containers (aboveground storage tanks, totes, drums), associated piping, oil-filled equipment and secondary containment using this checklist. Retain completed checklists for at least 3 years.

Notes:

- The visual inspection is intended to monitor the external condition of the equipment and its containment, and does not require a Certified Inspector. The inspection shall be performed by qualified facility personnel.
- Non-conforming items important to aboveground storage tank integrity require evaluation by an engineer experienced in tank design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action(s) in the comment section.
- After severe weather (snow, ice, wind storms) or maintenance (such as coating) that could affect the operation of critical components (normal and emergency vents, valves), an inspection of these components is required as soon as the equipment is safely accessible after the event.

INSPECTION DATE (MM/YYYY):	INSPECTOR NAME/TITLE:

PORTABLE / MOBILE CONTAINERS (includes totes, drums, mobile refuelers and auxiliary fuel tanks on vehicles):

#	INSPECTION ITEM	STORAGE AREA LOCATION AND STATUS					COMMENTS/ DATE CORRECTED
		Section A	Section B	Section C	Section D	Section E	
1	Are all portable containers within a designated storage area?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
2	Is the storage area containment free of excess liquid, debris, cracks or fire hazards?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
3	Are containment drain valves closed and in good working condition?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
4	Are storage area egress pathways clear and any gates/doors operable?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
5	Are containers labeled with their contents and an indication of content hazards?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

HOLLYFRONTIER®

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Refinery
Refinery Wide Mobile Containers and Oil-Filled Equipment

#	INSPECTION ITEM	STORAGE AREA LOCATION AND STATUS					COMMENTS/ DATE CORRECTED
		Section A	Section B	Section C	Section D	Section E	
6	Are containers free of leaks? *If "No", identify container and describe leak and actions taken.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
7	Are containers free of distortions, buckling, denting or bulging?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
8	Are 55-gallon metal drums stacked no more than four feet high on a level and paved surface?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
9	Are 275-gallon and 330-gallon totes stacked no more than three feet high on a level and paved surface or no more than two feet high on a level but unpaved suface?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
10	Are containers holding incompatible materials separated by at least 5 feet?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	

OIL-FILLED EQUIPMENT (includes transformers and generators):

#	INSPECTION ITEM	STORAGE AREA LOCATION AND STATUS					COMMENTS/ DATE CORRECTED
		Section A	Section B	Section C	Section D	Section E	
1	Is the oil-filled equipment free of leaks? *If "No", identify equipment and describe leak and corrective action.*	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
2	Is the equipment free of distortions, buckling, denting or bulging?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

HOLLYFRONTIER®

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Refinery
Refinery Wide Mobile Containers and Oil-Filled Equipment

#	INSPECTION ITEM	STORAGE AREA LOCATION AND STATUS					COMMENTS/ DATE CORRECTED
		Section A	Section B	Section C	Section D	Section E	
3	Is the equipment provided with containment? *Note: Onsite spill kits are acceptable forms of 'active' containment for oil-filled equipment.*	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
4	Is the containment free of excess liquid, debris, cracks or fire hazards?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	

INSPECTOR SIGNATURE: _____

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Renewable Diesel Company LLC
Artesia Refinery
South Plant Heavy Oils Tank Farm and RDU Tanks (Sections B and C)

INSTRUCTIONS

At least once a month, visually inspect bulk storage containers (aboveground storage tanks, totes, drums), associated piping, oil-filled equipment and secondary containments using this checklist. Retain completed checklists for at least 3 years.

Notes:

- The visual inspection is intended to monitor the external condition of the equipment and its containment, and does not require a Certified Inspector. The inspection shall be performed by qualified facility personnel.
- Non-conforming items important to aboveground storage tank integrity require evaluation by an engineer experienced in tank design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action(s) in the comment section.
- After severe weather (snow, ice, wind storms) or maintenance (such as coating) that could affect the operation of critical components (normal and emergency vents, valves), an inspection of these components is required as soon as the equipment is safely accessible after the event.

INSPECTION DATE (MM/YYYY):	INSPECTOR NAME/TITLE:

ABOVEGROUND STORAGE TANKS:

#	INSPECTION ITEM	TANK ID AND STATUS											COMMENTS/ DATE CORRECTED
		T-13	T-106	T-110	T-136	T-400	T-410	T-420	T-422	T-423	T-431	T-432	
1	Is tank exterior (roof, shell, heads, bottom, connections, fittings, valves, etc.) free of visible leaks? *If "No", identify tank and describe leak and actions taken.*	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
2	Is the tank liquid level gauge legible and in good working condition?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
3	Is the area around the tank (concrete surfaces, ground, containment, etc.) free of visible signs of leakage?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

HOLLYFRONTIER.

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Renewable Diesel Company LLC
Artesia Refinery
South Plant Heavy Oils Tank Farm and RDU Tanks (Sections B and C)

HOLLYFRONTIER. RENEWABLES

#	INSPECTION ITEM	TANK ID AND STATUS										COMMENTS/ DATE CORRECTED
		T-13	T-106	T-110	T-136	T-400	T-410	T-420	T-422	T-423	T-431	T-432	
4	Is overfill prevention equipment in good working condition? *If it is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
5	Are piping connections to the tank (valves, fittings, pumps, etc.) free of visible leaks? *If "No", identify location and describe leak.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
6	Is the containment free of excess liquid, debris, cracks, corrosion, erosion, fire hazards and other integrity issues? *Upon discovery of liquids, inspect the fluids, check for leaks (as applicable), and dispose of liquids properly.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
7	Is the system free of any other conditions that need to be addressed for continued safe operation?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

ABOVEGROUND STORAGE TANKS - CONTINUED:

#	INSPECTION ITEM	TANK ID AND STATUS										COMMENTS/ DATE CORRECTED
		T-433	T-435	T-438	T-439	T-451	T-452	T-814	T-904	T-905	T-914	T-1227	
1	Is tank exterior (roof, shell, heads, bottom, connections, fittings, valves, etc.) free of visible leaks? *If "No", identify tank and describe leak and actions taken.*	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
2	Is the tank liquid level gauge legible and in good working condition?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Renewable Diesel Company LLC
Artesia Refinery
South Plant Heavy Oils Tank Farm and RDU Tanks (Sections B and C)

#	INSPECTION ITEM	TANK ID AND STATUS											COMMENTS/ DATE CORRECTED
		T-433	T-435	T-438	T-439	T-451	T-452	T-814	T-904	T-905	T-914	T-1227	
3	Is the area around the tank (concrete surfaces, ground, containment, etc.) free of visible signs of leakage?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
4	Is overfill prevention equipment in good working condition? *If it is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
5	Are piping connections to the tank (valves, fittings, pumps, etc.) free of visible leaks? *If "No", identify location and describe leak.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
6	Is the containment free of excess liquid, debris, cracks, corrosion, erosion, fire hazards and other integrity issues? *Upon discovery of liquids, inspect the fluids, check for leaks (as applicable), and dispose of liquids properly.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
7	Is the system free of any other conditions that need to be addressed for continued safe operation?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

INSPECTOR SIGNATURE: _____

HOLLYFRONTIER

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Refinery
South Plant West Tank Farm (Sections B and C)

INSTRUCTIONS

At least once a month, visually inspect bulk storage containers (aboveground storage tanks, totes, drums), associated piping, oil-filled equipment and secondary containments using this checklist. Retain completed checklists for at least 3 years.

Notes:

- The visual inspection is intended to monitor the external condition of the equipment and its containment, and does not require a Certified Inspector. The inspection shall be performed by qualified facility personnel.
- Non-conforming items important to aboveground storage tank integrity require evaluation by an engineer experienced in tank design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action(s) in the comment section.
- After severe weather (snow, ice, wind storms) or maintenance (such as coating) that could affect the operation of critical components (normal and emergency vents, valves), an inspection of these components is required as soon as the equipment is safely accessible after the event.

INSPECTION DATE (MM/YYYY):	INSPECTOR NAME/TITLE:

ABOVEGROUND STORAGE TANKS:

#	INSPECTION ITEM	TANK ID AND STATUS										COMMENTS/ DATE CORRECTED
		T-52	T-55	T-56	T-106	T-111	T-112	T-113	T-124	T-128	T-413	T-417	
1	Is tank exterior (roof, shell, heads, bottom, connections, fittings, valves, etc.) free of visible leaks? *If "No", identify tank and describe leak and actions taken.*	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
2	Is the tank liquid level gauge legible and in good working condition?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
3	Is the area around the tank (concrete surfaces, ground, containment, etc.) free of visible signs of leakage?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

HOLLYFRONTIER

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Refinery
South Plant West Tank Farm (Sections B and C)

#	INSPECTION ITEM	TANK ID AND STATUS											COMMENTS/ DATE CORRECTED
		T-52	T-55	T-56	T-106	T-111	T-112	T-113	T-124	T-128	T-413	T-417	
4	Is overfill prevention equipment in good working condition? *If it is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
5	Are piping connections to the tank (valves, fittings, pumps, etc.) free of visible leaks? *If "No", identify location and describe leak.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
6	Is the containment free of excess liquid, debris, cracks, corrosion, erosion, fire hazards and other integrity issues? *Upon discovery of liquids, inspect the fluids, check for leaks (as applicable), and dispose of liquids properly.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
7	Is the system free of any other conditions that need to be addressed for continued safe operation?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

ABOVEGROUND STORAGE TANKS - CONTINUED:

#	INSPECTION ITEM	TANK ID AND STATUS											COMMENTS/ DATE CORRECTED
		T-418	T-419	T-434	T-737	T-802							
1	Is tank exterior (roof, shell, heads, bottom, connections, fittings, valves, etc.) free of visible leaks? *If "No", identify tank and describe leak and actions taken.*	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
2	Is the tank liquid level gauge legible and in good working condition?	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	

HOLLYFRONTIER.

MONTHLY INSPECTION CHECKLIST

HollyFrontier Navajo Refining LLC
Artesia Refinery
South Plant West Tank Farm (Sections B and C)

#	INSPECTION ITEM	TANK ID AND STATUS											COMMENTS/ DATE CORRECTED
		T-418	T-419	T-434	T-737	T-802							
3	Is the area around the tank (concrete surfaces, ground, containment, etc.) free of visible signs of leakage?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	
4	Is overfill prevention equipment in good working condition? *If it is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
5	Are piping connections to the tank (valves, fittings, pumps, etc.) free of visible leaks? *If "No", identify location and describe leak.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
6	Is the containment free of excess liquid, debris, cracks, corrosion, erosion, fire hazards and other integrity issues? *Upon discovery of liquids, inspect the fluids, check for leaks (as applicable), and dispose of liquids properly.*	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	□ Yes □ No □ N/A	
7	Is the system free of any other conditions that need to be addressed for continued safe operation?	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	□ Yes □ No	

INSPECTOR SIGNATURE: _____

Containment and Drainage Form

RAINWATER RELEASE INSPECTION CHECKLIST
CONTAINMENT BARRIER

Source No.: _____

Location/Containment:_____

Date_____

Time:_____

Inspector:_____

Was oil or an oil sheen present?

_____

If yes, describe actions taken to prevent release of oil:

_____

I certify this information is true and accurate to the best of my knowledge.

Inspector's name and signature: _____

APPENDIX 6-3

EXAMPLE INSPECTION FORMS HWMU AND TANK 815

Example North Colony Landfarm Inspection Log

At least semi-annually and after major storm events[1] – the following should be inspected, observations recorded, and repairs made if necessary.

Inspection Item	Yes	No	N/A	Comments
Dikes				
1. Is there evidence of surface erosion?				
2. Is the dike height approximately 3 feet all around the exterior as compared to exterior grade?				
3. Is there evidence of burrowing animals?				
4. Is there deep-rooted vegetation (trees, bushes) that needs removal?				
Tank 815				
5. Is there evidence of spills, leaks, deterioration, overfills or accumulation within the containment area?				
6. Is the dike height approximately 6 feet all around the exterior?				
7. Is there evidence of leakage from above-ground piping or piping that penetrates through the earthen berm on the south side of the tank?				
Security and Control				
8. Is the integrity of the fence intact?				
9. Are the warning signs in place and legible?				
10. Any signs of vandalism or prohibited trespass?				
Monitoring Wells				
11. Is there damage to surface casing that would prevent sampling?				
12. Is there any indication of vandalism?				
13. Is there deterioration of the concrete pad?				
14. Is there evidence of standing water or subsidence of well structure?				
15. Are wells locked and locks/caps in good condition?				

Example North Colony Landfarm Inspection Log (continued)

At least semi-annually and after major storm events[1] – the following should be inspected, observations recorded, and repairs made if necessary.

Inspection Item	Yes	No	N/A	Comments
Final Vegetative Cover				
17. Is there evidence of standing water?				
18. Is there erosion or evidence of burrowing animals?				
19. Is vegetation distressed? Are there areas that require re-seeding?				
20. Does grass need mowing, watering, or fertilization?				
General				
21. Is there standing water on the landfarm?				
22. Does the landfarm need to be watered (evidence of wind erosion or extreme dusting)?				
Other Observations:				

Work Memo Number:	**Date Issued:**	**Date Completed:**
Inspection Date:	**Inspector Signature:**	

NOTE: This inspection log and any related work orders must be maintained for at least 3 years from the date of inspection.

[1] A major storm event is defined as yielding four or more inches of precipitation in 24 hours or less (i.e., the 24-hour 25-year rain event for Artesia, NM).

Example Tetraethyl Lead Site Inspection Log

At least semi-annually and after major storm events[1] – the following should be inspected, observations recorded, and repairs made if necessary.

Inspection Item	Yes	No	N/A	Comments
Security and Control				
1. Is the integrity of the fence intact?				
2. Is the gate locked and is the lock in good condition?				
3. Are the warning signs in place and legible?				
4. Any signs of vandalism or prohibited trespass?				
Monitoring Wells (also inspect at each monitoring event)				
5. Is there damage to surface casing that would prevent sampling?				
6. Is there any indication of vandalism?				
7. Is there deterioration of the concrete pad?				
8. Is there evidence of standing water or subsidence of well structure?				
9. Are wells locked and locks/caps in good condition?				
Cap/Cover				
10. Is there evidence of differential settling of cap (standing water, slumping surfaces, radiating cracks)?				
11. Are there cracks or crevices?				
12. Is there erosion or evidence of burrowing animals?				
13. Is vegetation distressed? Are there areas that require re-seeding?				
14. Does grass need mowing, watering, or fertilization?				
General				
15. Is drainage clear of debris, overgrowth or other obstructions?				
16. Is the survey marker present and in good condition?[2]			X	Use GPS surveying methods
Other Observations:				

Work Memo Number:	**Date Issued:**	**Date Completed:**
Inspection Date:	**Inspector Signature:**	

NOTE: This inspection log and any related work orders must be maintained for at least 3 years from the date of inspection.

[1] A major storm event is defined as yielding four or more inches of precipitation in 24 hours or less (i.e., the 24-hour 25-year rain event for Artesia, NM).

[2] Note that with the use of global positioning system (GPS) surveying methods at the Refinery, survey benchmarks are no longer used.

Example Evaporation Pond Inspection Log

At least semiannually (unless otherwise noted) and after major storm events[1] – the following should be inspected, observations recorded, and repairs made if necessary.

Inspection Item	Yes	No	N/A	Comments
Dikes				
1. Is there evidence of surface erosion?				
2. Is there evidence of wave erosion (while ponds are active)?			X	Ponds are not active.
3. Is there evidence of burrowing animals?				
4. Is there deep-rooted vegetation (trees, bushes) that needs removal?				
5. Is there evidence of subsidence or slumping?				
6. Is there evidence of seepage or leakage?				
7. Is there evidence that erosion of the riverbank threatens dikes?[2]				
Security and Control				
8. Are the integrity of the fence and gate intact?				
9. Is the gate locked and is the lock in good condition?				
10. Are the warning signs in place and legible?				
11. Any signs of vandalism or prohibited trespass?				
Monitoring Wells				
12. Is there damage to surface casing that would prevent sampling?				
13. Is there any indication of vandalism?				
14. Is there deterioration of the concrete pad?				
15. Is there evidence of standing water or subsidence of well structure?				
16. Are wells locked and locks/caps in good condition?				
General				
17. Is there standing water on the interior?				
Other Observations:				

Work Memo Number:	**Date Issued:**	**Date Completed:**
Inspection Date:	**Inspector Signature:**	

NOTE: This inspection log and any related work orders must be maintained for at least 3 years from the date of inspection.

[1] A major storm event is defined as yielding four or more inches of precipitation in 24 hours or less (i.e., the 24-hour 25-year rain event for Artesia, NM).

[2] Dikes are threatened once riverbank erosion is at or inside the fence line.

Example Tank 815 Inspection Log

Tank 815 is visually inspected daily for signs of leaks and deterioration and is thoroughly inspected annually as detailed in the Refinery's SPCC/FRP Plans and against the following checklist at a minimum.

Item	Present	None	N/A	Comments
Check Tank for Leaks, Specifically Looking For:				
1. Drip Marks				
2. Discoloration of Tank				
3. Puddles Containing Spilled or Leaked Material				
4. Corrosion				
5. Cracks				
Check Foundation For:				
6. Cracks				
7. Discoloration				
8. Puddles Containing Spilled or Leaked Material				
9. Settling				
10. Gaps Between Tank and Foundations				
11. Evidence of Vegetation				
Check Piping For:				
12. Droplets of Stored Material				
13. Discoloration				
14. Corrosion				
15. Bowing of Pipe Between Supports				
16. Evidence of Stored Material Seepage from Valves or Seals				
17. Evidence of Vegetation (Note if vegetation is stressed.)				
Other Observations:				

Work Memo Number:	**Date Issued:**	**Date Completed:**
Inspection Date:	**Inspector Signature:**	

NOTE: This inspection log and any related work orders must be maintained for at least 3 years from the date of inspection.

Example Tank 815 Secondary Containment Inspection Log

Tank 815 Secondary Containment is visually inspected daily for accumulation in the containment area and is thoroughly inspected annually as detailed in the Refinery's SPCC/FRP Plan and against the following checklist at a minimum. Piping that penetrates the containment berm is inspected weekly.

Item	Present	None	N/A	Comments
Dike or Berm System				
1. Level of Precipitation in Dike/ Available Capacity				
2. Operational Status of Drainage Valves				
3. Puddles Containing Spilled or Leaked Material				
4. Corrosion				
5. Cracks				
6. Localized Dead Vegetation				
Secondary Containment				
7. Cracks				
8. Discoloration				
9. Puddles Containing Spilled or Leaked Material				
10. Corrosion				
11. Valve Conditions				
Retention and Drainage Ponds (as applicable)				
12. Erosion				
13. Available Capacity				
14. Presence of Spilled or Leaked Material				
15. Debris				
16. Evidence of Vegetation (Note if vegetation is stressed.)				
Other Observations:				

Work Memo Number:	**Date Issued:**	**Date Completed:**
Inspection Date:	**Inspector Signature:**	

NOTE: This inspection log and any related work orders must be maintained for at least 3 years from the date of inspection.

7 PROPOSED MODIFICATIONS

The collection and storage systems at the Refinery meet the necessary criteria provided in 20.6.2.3106(D) and 23.6.2.3107 NMAC to protect groundwater quality in accordance with 20.6.2.3101 and 20.6.2.3103 NMAC. Therefore, Navajo does not propose modifications to current operating systems at this time.

Discharges of potential groundwater contaminants are not expected at the Facility given the design, inspection, and maintenance procedures for the collection and storage systems. Tanks and containers are provided with secondary containment and surficial spills can be cleaned up rapidly in accordance with established emergency response procedures described in Section 8 or directed to the on-site WWTP for treatment. The Refinery has existing emergency preparedness, communications, and response procedures and plans in place, (e.g., the *RCRA Contingency Plan*, the *Spill Prevention, Control and Countermeasure Plan*, the *Facility Response Plan*, the *Emergency Response Action Plan*, and *Clean Air Act Risk Management Plan)* to be utilized in the event of a contingency associated with the Refinery, the RDU, and the effluent discharge system. Implementation of the emergency preparedness and response procedures described in Section 8 allows the Refinery to protect groundwater in the event of an unintentional release or emergency.

Inspection and maintenance of containers, piping, and tanks containing materials that could cause a potential discharge is conducted on a regular basis as described in Section 6 of this Renewal Application to provide further protection from potential discharges.

In addition, the Refinery conducts routine groundwater monitoring and reporting in accordance with the FWGMWP as described in Section 3 of this Renewal Application. Regular groundwater monitoring allows for identification and correction of any releases.

If in the future, protection of groundwater quality cannot be demonstrated, Navajo will describe what modifications are proposed for the particular protection method to meet the requirements.

8 CONTINGENCY PLAN

The Refinery is designed, maintained, and operated in such a manner as to minimize hazards to human health and/or the environment from fires, explosions, or any unplanned sudden or non-sudden releases of hazardous waste or hazardous waste constituents to air, soil, or surface water at the Refinery. The Refinery conducts a robust inspection and maintenance program as described in Section 6 of this Renewal Application. Regular inspections allow for quick detection of maintenance concerns or any spills or leaks, thereby reducing the likelihood and size of any unplanned releases.

Further, if a spill or leak were to occur, Navajo has existing emergency preparedness, communications, and response procedures and plans in place to effective address the unintended release and protect surface and groundwater; e.g., the *RCRA Contingency Plan*, the *Spill Prevention, Control and Countermeasure Plan*, the *Facility Response Plan*, the *Emergency Response Action Plan*, and *Clean Air Act Risk Management Plan*. These well-established procedures are readily available at the Refinery and will be utilized in the event of a contingency associated with the Refinery, the RDU, and the effluent discharge system.

8.1 EMERGENCY PREPAREDNESS AND RESPONSE FOR POTENTIAL DISCHARGES

8.1.1 Effluent Discharge System

Refinery WWTP effluent, including RO reject fluid, is generated in support of refinery operations. The fluids are not typical "oil-field wastes" generated during the oil production process, and the fluids are not characteristically hazardous. The nature of the discharge stream precludes the possibility for fires, explosions, or releases to air.

The reject fluids generated by the RO system and treated effluent from the WWTP at the Refinery are authorized to be injected into Class I non-hazardous deep well disposal wells (WDW-1, WDW-2, WDW-3, and WDW-4). These Class I non-hazardous disposal wells are permitted by OCD under separate cover as Discharge Permit Numbers UICI-8-1, UICI-8-2, UICI-8-3, and UICI-8-4. The Refinery complies with the operating requirements specified to ensure that only RCRA-exempt or non-hazardous, non-exempt oil field waste fluids are injected, and that the maximum injection pressure at the wellhead does not initiate new fracture, propagate exiting fracture in either the injection of confining zone, or cause the movement of injection of formation fluids into groundwater, except for fluid movement approved pursuance to 20.6.2.5103 NMAC. Navajo ensures the injection pressure on the Class I non-hazardous deep well disposal wells, as measured at the surface, and has equipped the wells with a pressure limiting device that is inspected daily.

The effluent discharge system is inspected for leaks and spills regularly as described in section 6.1 of this Renewal Application.

Treated Refinery Effluent

Navajo complies with permit conditions and OCD regulations for response to effluent spills, inlcuding reporting spills/releases, mitigations, corrective actions, clean up and disposal, as applicable, for the Class I non-hazardous deep well disposal wells (WDW-1, WDW-2, WDW-3, and WDW-4). The wells are equipped with a high-pressure shutoff switch to prevent operation of the injection pump at pressures greater than the designated maximum allowable surface injection pressures, which can be found in Section 6.1 of this Renewal Application. The wells are equipped with a low-pressure shutoff switch that will deactivate the injection pump in the event of a surface leak. In addition, the wells are equipped with a high/low pressure shutdown switch with a pressure sensor on the tubing/casing annulus. The pressure switch is intended to stop the injection pump in the event of a tubing leak, or a casing, packer, or wellhead leak. If an alarm or shutdown is triggered at the wellhead, operators will immediately cease injection operations at the wellhead, divert flow to another well, and open the spillback at the WWTP to reduce the pressure on the pipeline. Inspection procedures are described in Section 6.1 of this Renewal Application.

Navajo plans to divert some of its treated refinery effluent from deep well injection at the wellhead of two of the Class I non-hazardous deep well disposal wells (WDW-1 and WDW-4) for sale and reuse as product by third parties solely for oil and gas exploration and production-related uses. Navajo has procedures in place in the event of a pipeline release of the Refinery's treated refinery effluent. If an alarm sounds, indicating an increase in pipeline effluent flow or for low pipeline pressure, Navajo will utilize the Refinery's pipeline shutdown procedures. There are closed motor operated valves (MOVs) located along the pipeline to isolate the pipeline and decrease the volume of treated refinery effluent released. The maintenance department and the environmental department will be immediately notified of any releases so as to promptly mobilize to the location to inspect, identify the potential causes, and mitigate releases.

Navajo water sales meters will serve as the location of transfer of ownership of the treated refinery effluent. Secondary containment has been installed at the transfer location to catch potential releases of treated refinery effluent during customer piping hook-up and disconnect from this piping. The containment, which consists of prefabricated steel catch basins with an impervious liner are anchored to the ground with straps and protected from rainfall by a shelter.

If a release occurs at the custody transfer location, Navajo will mobilize to pump out the secondary containment to prevent overflows. If a release occurs before the custody transfer location, along the pipeline, Navajo will follow its standard procedures for release and reporting and mitigation. If a release occurs after the custody transfer location on or off of Navajo property, emergency response is the contractual responsibility of the initial purchaser of the treated refinery effluent. The treated refinery effluent diversion areas at well sites WDW-1 and WDW-4 are inspected as described in section 6.1 of this Renewal Application.

The RDU

The RDU processes feedstock, which consists of nonpetroleum renewable resources such as plant and animal-based oils and fats, including soybean oil, corn oil, and beef tallow, into a product that is 99% renewable diesel, with a very small fraction ranging from 0.1% to 1% of ultra-low sulfur petroleum diesel blended with renewable diesel. The transfer/circulations of oil product to and from the RDU is conducted through a series of underground pipelines that are encased in two 36-inch diameter steel pipes and enter/exit the Refinery from a concrete vault located just north of East Main Street. A concrete sump along the bottom of the concrete vault is fitted with a pump so that excess stormwater or a potential release can be removed via vacuum truck as needed. The concrete vault is located within an earthen bermed containment area that is capable of preventing a release from leaving the Refinery. In the event of a release, the Refinery will implement the procedures included in the *RCRA Contingency Plan*, the *Spill Prevention, Control and Countermeasure Plan*, the *Facility Response Plan*, the *Emergency Response Action Plan*, and *Clean Air Act Risk Management Plan.* The RDU, and associated pipelines, are inspected for leaks and spills regularly as described in Section 6.1 of this Renewal Application.

Tanks

The Refinery's oil storage tanks have been designed in accordance with industry standards to prevent emergency situations or releases and have the following design characteristics:

- Tanks are constructed of a material that is compatible with the materials stored and the conditions of storage.
- Tanks are constructed to API standards.
- Tanks are operated within "Safe Fill" levels positioned below the capacity limits of the tank.
- Tanks are equipped with flame arrestors and/or pressure/vacuum relief, as appropriate.

The Refinery's storage tanks, and associated facilities, are situated within secondary containment constructed of compacted earthen, concrete, and/or plastic containment walls. Each secondary containment is designed to hold the volume of the largest tank plus sufficient freeboard. Adequate containment is of a size that can capture the volume of the single largest tank in a secondary containment area plus the volume of a 25-year, 24-hour rainfall event, or the volume of 110% of the single largest tank in a secondary containment area. Oil product storage tanks are positioned or located to prevent spilled oil from reaching navigable waters and are not constructed in locations that will be subject to period flooding or washout. Each tank also comes equipped with Praxair TracerTight leak detection technology at the Refinery, as discussed in Section 6.1 of this Renewal Application.

Tanks are inspected for leaks and spills regularly as described in Section 6.1 of this Renewal Application. In the event of a release, the Refinery will implement the procedures included in the *RCRA Contingency Plan*, the *Spill Prevention, Control and Countermeasure Plan*,

the *Facility Response Plan*, the *Emergency Response Action Plan*, and *Clean Air Act Risk Management Plan.*

Refinery Hazardous Wastes

The three inactive HWMUs (NCL, TEL, and EPs 2 through 6) at the Refinery are permitted and operated in accordance with the RCRA Part B Post-Closure Permit Application and NMED Hazardous Waste Permit (Permit Number NMD048918817). The only item associated with these units that has a potential for a catastrophic release is Tank 815, which contains ultra-low sulfur diesel, at the NCL. Containers stored at the CAAs also have the potential to release hazardous wastes. The HWMUs and the CAA are inspected for leaks and spills regularly as described in Section 6.1 of this Renewal Application. In the event of a release or emergency situation at one of the inactive HWMUs, a CAA, or an SAA, the Refinery will implement the *RCRA Contingency Plan* to minimize potential impacts to surface or groundwater sources.

8.2 General Refinery Emergency Response Procedures

When a spill or release is discovered, an emergency alarm button is immediately pressed, and the appropriate department is contacted by radio/in-person to sound the Refinery alarm. After sounding the alarm, a Navajo employee will announce twice over the operating radio channel the (type of emergency) at (location), to alert the personnel in the affected spill area. On-duty operations personnel will implement the response process detailed in the applicable emergency response plan (e.g., the *RCRA Contingency Plan*, the *Spill Prevention, Control and Countermeasure Plan*, the *Facility Response Plan*, the *Emergency Response Action Plan*, and *Clean Air Act Risk Management Plan)* and will take immediate action within their scope of training to:

- Shut off pumps feeding leak;
- Isolate leak by closing appropriate valves;
- If possible, eliminate any sources of ignition;
- If possible, de-energize electrical equipment;
- If possible, transfer content of leaking equipment to another tank or vessel; and
- If possible, repair leak.

Refinery personnel, under the direction of an Incident Commander, will begin deploying necessary pumps, vacuum trucks, booms, and oil skimmers to begin removing any spilled oil product or hazardous material. Recovered materials and water will be redirected to available tank storage, mobile tank storage, and primarily to the wastewater treatment system for oil separation and treatment in the WWTP.

8.3 RELEASE REPORTING

A minor release is an unauthorized release with a volume greater than five bbls but less than 25 bbls. A major release is an unauthorized release with a volume greater than 25 bbls. Navajo will notify OCD's Administrative Permitting Section via phone and/or email for spills under five bbls. The OCD must be notified of a major or minor release verbally (or by email) within 24 hours to the OCD Environmental Bureau Chief and the OCD District 2 office. The OCD must also receive a written notification within one week of discovery of the release via the OCD Form C-141 in accordance with the requirements of 19.15.29 NMAC. A written corrective action report shall be provided within 15 days after learning of the release.

The NMED will be contacted as needed or as deemed appropriate. In the event of a release from Tank 815, which is located within a permitted inactive HWMU, Navajo will notify NMED and OCD verbally within 24 hours and in writing within five days in accordance with the RCRA Post-Closure Care Permit.

When applicable, the Refinery must also verbally notify the National Response Center (NRC) immediately for any spills that impact navigable waters or adjoining shoreline. Written communication must be submitted within 60 days to the U.S EPA for a spill in excess of 24 bbls in a single event or two spill events of 42 gallons or more within a twelve-month period into or upon navigable waters or adjoining shorelines.

Additional release reporting procedures can be found in the Refinery's *Spill Prevention, Control, and Countermeasure Plan* and *RCRA Contingency Plan.*

9 PUBLIC NOTICE

This Renewal Application is subject to public notice requirements in accordance with 20.6.2.3108 NMAC. A discussion of Navajo's planned procedures for notifying the public and meeting the public notice requirements is provided in the subsections below. A copy of the public notice to be used for the required mailing, which includes the information required by 20.6.2.3108(F) NMAC, is provided in Appendix 9-1. Initial public notice will be provided within 30 days of Navajo's receipt of an administrative completeness determination from OCD regarding the Renewal Application.

9.1 LOCATION OF PUBLIC NOTICE DISPLAY

A synopsis of the public notice will be posted for 30 days in both English and Spanish and at least two feet by three feet in size outside of the Refinery's main administrative office at 501 East Main Street, Artesia, NM 88210 and on various locations of the Refinery fence line. The synopsis will also be available at the Artesia Public Library at 205 West Quay Avenue, Artesia, NM 88210.

9.2 NOTIFICATION OF NEARBY PROPERTY OWNERS

Notice of the proposed modification will be made by United States Postal Service (USPS) certified mail, return receipt requested, to property owners located within ⅓ mile of the Refinery property boundary, or to the nearest adjacent landowner, in accordance with 20.6.2.3108(B)(2) NMAC.

9.3 OWNER OF THE DISCHARGE SITE

Navajo is the applicant and owns (and operates) the discharge location site. Therefore, separate notification to the discharge site landowner is not applicable.

9.4 NEWSPAPER PUBLICATION

A synopsis of the public notice will be published by Navajo once in the Artesia Daily Press in both English and Spanish, and in a display ad at least three inches by four inches in size, and which is not posted in the classified or legal advertisements section.

9.5 PROOF OF PUBLIC NOTICE

Within 15 days of completion of public notice requirements, Navajo will submit to OCD an affidavit of mailings and the list of property owners, and an affidavit and proof of publication from the Artesia Daily Press.

9.6 CONTENTS OF THE PUBLIC NOTICE

Navajo will provide a notice that fulfills the requirements in 20.6.2.3108(F) NMAC, as shown in the proposed Notice of Permit Renewal and Modification Request provided in Appendix 9-1.

APPENDICES FOR PUBLIC NOTICE

Appendices

9-1 Public Notice

APPENDIX 9-1
PUBLIC NOTICE

Notice of Permit Renewal – GW-028

On December 22, 2021, the HollyFrontier Navajo Refining LLC (Navajo), Artesia, New Mexico (NM), 88210 Refinery (the Refinery), applied to the New Mexico Energy, Minerals & Natural Resources Department Oil Conservation Division (OCD) for a renewal and modification of Groundwater Discharge Permit GW-028. The Renewal Application provides information on current Refinery operations and potential (unintentional) discharges at the Refinery. As specified in 20.6.2.3108(B) New Mexico Administrative Code (NMAC), the Refinery is posting this public notice of discharge permit renewal in a newspaper to inform the general public. This public notice includes the information required by 20.6.2.3108(F) NMAC.

The Refinery is located at 501 East Main Street, Artesia, NM, 88210 in the SE/4 Section 1, E/2 of Section 8, W/2 of Section 9, N/2 of section 12, Township 17 South, Range 26 East, New Mexico Principal Meridian (NMPM), Eddy County. The Refinery operates three reverse osmosis (RO) units to treat raw water from the City of Artesia or water pumped from the ground for use as boiler feed water or cooling tower makeup water in the Refinery process. The RO reject fluid that is produced during the process (up to 1,191 gallons/minute]) is authorized to be injected into permitted Class I non-hazardous deep well disposal wells to the southeast of the Refinery (WDW-1, WDW-2, WDW-3, and WDW-4).

The Refinery is in the process of constructing a 9,000 bbl/day RDU in the North Plant Process Area of the Refinery. The RDU will consist of a slop tank, cooling tower, processing unit, and feed tanks. The RDU is operated by ARDC, a separate subsidiary of HollyFrontier Corporation.

Ground water that may be affected by a potential (unintentional) discharge at the Refinery occurs at a depth of approximately 10 to 30 feet below ground surface with a total dissolved solids concentration of approximately 4,700 milligrams per liter (mg/L). Ground water that may be affected by the potential (unintentional) discharge at the Class I non-hazardous deep well disposal wells to the southeast of the Refinery (WDW-1, WDW-2, WDW-3, and WDW-4) occurs at a depth of approximately 100 feet below ground surface with a total dissolved solids concentration of approximately 2,000 milligrams per liter (mg/L).

Comments, questions, and requests for a copy of the application (either a paper copy or an electronic copy via the internet) should be sent to the following OCD contact:

Ms. Leigh Barr
Oil Conservation Division
New Mexico Energy, Minerals & Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505
(505) 670-5684
leighp.barr@state.nm.us

Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio´n Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Laura Tulk, 575-703-3842)

The OCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons wishing to receive future notices.

AVISO DE RENOVACIÓN DE PERMISO - GW-028

El día 22 de décembre del 2021, la Refinería HollyFrontier Navajo Refining LLC (Navajo), Artesia, Nuevo México (NM), 88210 (La Refinería), solicitó a la División de Conservación de Petróleo (Oil Conservation Division [OCD]) del Departamento de Energía, Minerales y Recursos Naturales la renovación del Permiso de Descarga de Aguas Subterráneas GW-028. La Solicitud de Renovación provee información sobre las operaciones actuales en la Refinería y las descargas actualmente autorizadas por la OCD. Tal como está especificado en el Código Administrativo de Nuevo México (New Mexico Administrative Code [NMAC]) 20.6.2.3108(B), la Refinería está publicando este aviso público de renovación del permiso de descarga en un periódico para informar al público en general. Esta notificación pública incluye la información requerida por NMAC 20.6.2.3108(F).

La Refinería está ubicada en 501 East Main Street, Artesia, NM, 88210 en SE/4 de sección 1, E/2 de sección 8, W/2 de sección 9, N/2 de sección 12, Township 17 South, Range 26 East, NMPM, Condado de Eddy. La Refinería opera tres unidades de tipo ósmosis inversa (OI) para tratar agua virgen de la Ciudad de Artesia o agua subterránea bombeada para el suministro de calderas o reabastecimiento de agua para torres de refrigeración en el proceso de refinación. El fluido de rechazo de OI que se produce durante el proceso (hasta 1,191 galones/minuto) está autorizado para ser inyectado en pozos de disposición de pozos profundos no peligrosos Clase I permitidos al sureste de la Refinería (WDW-1, WDW-2, WDW-3, y WDW-4).

La Refinería está en proceso de construir una RDU de 9,000 bbl / día en el Área de Procesos de la Planta Norte de la Refinería. La RDU constará de un tanque de decantación, una torre de enfriamiento, una unidad de procesamiento y tanques de alimentación. La RDU es operada por ARDC, una subsidiaria separada de HollyFrontier Corporation.

El agua subterránea que puede verse afectada por una descarga potencial (no intencional) en la refinería se produce a una profundidad de aproximadamente 10 a 30 pies debajo de la superficie del suelo con una concentración total de sólidos disueltos de aproximadamente 4,700 miligramos por litro (mg/L). El agua subterránea que puede verse afectada por la descarga potencial (involuntaria) en los pozos de disposición de pozos profundos no peligrosos de Clase I al sureste de la Refinería (WDW-1, WDW-2, WDW-3, y WDW-4) ocurre en una profundidad de aproximadamente 100 pies debajo de la superficie del suelo con una concentración total de sólidos disueltos de aproximadamente 2,000 miligramos por litro (mg/L).

Para enviar comentarios, preguntas, y ordenar una copia de la solicitud (ambos en papel o copia electrónica vía internet), favor mandarlos al siguiente contacto de la OCD:

Sra. Leigh Barr
Oil Conservation Division
New Mexico Energy, Minerals & Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505
(505) 670-5684
leighp.barr@state.nm.us

Para obtener más información sobre esta solicitud en español, sírvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Departamento de Energía, Minerales y Recursos Naturales de Nuevo México), Oil Conservation Division (División de Conservación de Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Laura Tulk, 575-703-3842)

La OCD aceptará comentarios y declaraciónes de interés en relación con esta solicitud y preparará una lista de correo específica de esta instalación para personas que desean recibir avisos futuros.

10 ADDITIONAL INFORMATION

Based on the inspection, maintenance, and monitoring programs in place at the Refinery and RDU, it is not expected that unplanned discharges will result in concentrations of constituents of concern that exceed the water quality control standards in WQCC 20.6.2.3103. In addition, there are no unlined surface impoundments and pits or leach fields present at the Refinery. Therefore, this section is not applicable.

11 CLOSURE PLAN

The applicability of a Closure Plan for the Refinery and the RDU to prevent the exceedance of standards of 20.6.2.3103 NMAC in groundwater after the cessation of operation, as required under 20.6.2.3107(A)(11) NMAC, will be assessed and discussed with OCD when facility closure is anticipated.

The inactive HWMUs at the Refinery are managed under a RCRA Part B Post-Closure Permit Application and the NMED Hazardous Waste Permit (Permit number NMD048918817). A Closure Plan for the HWMUs, including the associated financial assurance required, is provided in the RCRA Permit. In addition, the Refinery maintains a corrective action program (CAP) in accordance with 40 CFR 264 Subpart F to address releases to soils and groundwater Refinery-wide.

Closure Plans for the Class 1 non-hazardous deep well disposal wells (WDW-1, WDW-2, WDW-3, and WDW-4) for plugging and abandonment, surface restoration in the area of the well, and proper abandonment of the wastewater conveyance pipeline, including the associated financial assurances, were submitted per the requirements set forth in UIC Well Discharge Permit Numbers UICI-8-1, UICI-8-2, UICI-8-3, and UICI-8-4. The submitted Closure Plans meet the requirements of 20.6.2.5005, 20.6.2.5209, and 20.6.2.5361 NMAC. The financial responsibility mechanism and amount will be reviewed and updated periodically, upon request of OCD.

The approach to closure of the entire facility will be addressed when Refinery/RDU operations are scheduled to cease permanently. At that time, Navajo will review any existing closure plans such as those in the RCRA Permit, the current state of the RCRA CAP, the results of groundwater monitoring at the facility, and OCD and NMED regulations regarding closure of the facility, and will develop a site-wide closure plan, as appropriate.

12 FACILITY CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons that manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 

Parrish Miller
Vice President and Refinery Manager
HollyFrontier Navajo Refining LLC

Date: December 22, 2021

State of New Mexico
Energy, Minerals and Natural Resources Department

BY ELECTRONIC MAIL ONLY

March 4, 2022

Kawika Tupou
HollyFrontier Navajo Refining LLC
501 East Main Street
Artesia, NM 88210
Kawika.Tupou@HollyFrontier.com

RE: HollyFrontier Artesia Refinery – Notice of an Administratively Complete Discharge Permit Renewal/Modification Application

Dear Mr. Tupou:

The New Mexico Energy, Minerals and Natural Resource Department's Oil Conservation Division (OCD) has reviewed your amended discharge permit application, dated February 18, 2022, for HollyFrontier Navajo Refining LLC (Navajo), HollyFrontier Artesia Refinery. OCD has determined that the amended discharge permit application is administratively complete.

Given OCD's determination, Navajo must provide public notice within 30 days of receipt of this letter (i.e., April 3, 2022) in accordance with the requirements of 20.6.2.3108(B) NMAC to the general public in the locale of the Refinery by each of the methods listed below:

1. Prominently posting a synopsis of the public notice at least 2 feet by 3 feet in size, in English and in Spanish, outside of the Refinery's main administrative office at 501 East Main Street, Artesia, NM 88210, at various locations on the Refinery fence line, and at the Artesia Public Library at 205 West Quay Avenue, Artesia, NM 88210 for 30 days;
2. Providing written notice of the discharge by mail or electronic mail, to owners of record of all properties within a 1/3 mile distance from the boundary of the property where the discharge site is located; if there are no properties other than properties owned by the discharger within a 1/3 mile distance from the boundary of property where the discharge site is located, Navajo shall provide notice to owners of record of the next nearest adjacent properties not owned by the discharger;
3. Providing notice by certified mail, return receipt requested, to the owner of the discharge site if Navajo is not the owner; and

4. Publishing a synopsis of the notice in English and in Spanish, in a display ad at least three inches by four inches not in the classified or legal advertisements section, in the Artesia Daily Press. Please note, the public notice presented in Appendix 9-1 of the discharge permit application must also include reference to the Wastewater Treatment Plant, including volumetric flow rates, and define the RDU acronym as Renewable Diesel Unit.

As per 20.6.2.3108(F) NMAC, the notice must also include the address and phone number within OCD by which interested persons may obtain information, submit comments, and request to be placed on a facility-specific mailing list for future notices; the notice must also include a statement that OCD will accept comments and statements of interest regarding the application and will create a facility-specific mailing list for persons who wish to receive future notices. The following OCD contact information must be included in the notice:

Leigh Barr - Administrative Permitting Supervisor
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505
(505) 670-5684
OCD.DischargePermits@state.nm.us

Within 15-days of completion of the public notice requirements in 20.6.2.3108(B) NMAC, Navajo must submit to the OCD proof of the notice, including affidavit of mailing(s) and the list of property owner(s), proof of publication, and an affidavit of posting, as appropriate.

If you have any questions, please do not hesitate to contact me by phone at (505) 670-5684 or by email at LeighP.Barr@state.nm.us. On behalf of the OCD, I wish to thank you and your staff for your cooperation during this process.

Regards,

Leigh Barr

Leigh P. Barr
Administrative Permitting Supervisor

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 88317

CONDITIONS

Operator: NAVAJO REFINING COMPANY, L.L.C. P.O. Box 159 Artesia, NM 88211	OGRID: 15694
	Action Number: 88317
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
lbarr	None	6/21/2022