GW - 028

C-141s
(4)

Chavez, Carl J, EMNRD

From: Combs, Robert <Robert.Combs@HollyFrontier.com>
Sent: Friday, September 28, 2018 3:18 PM
To: Chavez, Carl J, EMNRD
Cc: VanHorn, Kristen, NMENV; Denton, Scott; Dade, Lewis (Randy); Sahba, Arsin M.; Speer, Julie (JSpeer@trcsolutions.com)
Subject: [EXT] RE: Recent Artesia Refinery Power Outage and WWTS Releases
Attachments: 2018-09-28 Initial C141 - Sept2018 WWTP with map.pdf; 2018-09-28 Initial C141 - Sept2018 WW Pipeline with map.pdf

Carl,
Attached, please find the C-141 forms for the two releases related to the refinery power outage this past week. Each form includes a map with the spill location indicated. The characterization/remediation plans for these events are forthcoming, pending receipt of the water sample analyses.
If you have any questions or would like to discuss, please let me know.
Thanks,
Robert

Robert Combs
Environmental Specialist
The HollyFrontier Companies
P.O. Box 159
Artesia, NM 88211-0159
office: 575-746-5382
cell: 575-308-2718
fax: 575-746-5451
Robert.Combs@hollyfrontier.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Wednesday, September 26, 2018 11:33 AM
To: Combs, Robert
Cc: VanHorn, Kristen, NMENV
Subject: Recent Artesia Refinery Power Outage and WWTS Releases

Robert:

I received your voice msg. from Monday, 9/24 at 16:04 regarding the power outage and 2 associated WWTS releases: 1) in the heart of refinery, and 2) effluent pipeline E of the refinery. C-141s are to follow.

You did not provide all of the information (see highlighted permit section below) in your verbal notification. Could you please provide the full verbal information to OCD and NMED before COB today?

2. C. Release Reporting: The Permittee shall comply with the following permit conditions, pursuant to 20.6.2.1203 NMAC, and may report a release using an OCD form C-141 , if it determines that a release of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, has occurred. The Permittee shall report unauthorized releases of water contaminants in accordance with any additional commitments made in its approved Contingency Plan. If the Permittee determines that any constituent exceeds the standards specified at 20.6.2.3103 NMAC, then it shall report a

release to OCD.
1. Oral Notification: As soon as possible after learning of such a release, but in no event, more than twenty-four (24) hours thereafter, the Permittee shall notify OCD of a release. The Permittee shall provide the following:
• the name, address, and telephone number of the person or persons in charge of the facility, as well as of the Permittee;
• the name and location of the facility;
• the date, time, location, and duration of the release;
• the source and cause of release;
• a description of the release, including its chemical composition;
• the estimated volume of the release; and,
• any corrective or abatement actions taken to mitigate immediate environmental damage from the release.
2. Written Notification: Within one week after the Permittee has discovered a release, the Permittee shall send initial written notification (may use an OCD form C-141 with attachments) to OCD verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.
3. Corrective Action: The Permittee shall undertake such corrective actions as are necessary and appropriate to contain and remove or mitigate the damage caused by the release along with the filing of subsequent corrective action reports with the OCD.

Thank you.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505
Ph. (505) 476-3490
E-mail: CarlJ.Chavez@state.nm.us
"Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?" (To see how, go to: http://www.emnrd.state.nm.us/OCD **and see "Publications")**

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: **HollyFrontier Navajo Refining LLC**	OGRID **15694**
Contact Name: **Robert Combs**	Contact Telephone: **575-746-5382**
Contact email: **Robert.Combs@hollyfrontier.com**	Incident # *(assigned by OCD)*
Contact mailing address: **501 E. Main St., Artesia, NM 88210**	

Location of Release Source

Latitude **32°51'1.15"N (32.85032)** Longitude **104°23'34.61"W (-104.39295)**
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: **HollyFrontier Navajo Refining LLC**	Site Type: **Petroleum Refinery**
Date Release Discovered: **9/23/2018, approx. 22:50**	API# *(if applicable)*: **N/A**

Unit Letter	Section	Township	Range	County
	9	**17S**	**26E**	**Eddy**

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* **HollyFrontier Navajo Refining LLC**)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☒ Other (describe) **Non-hazardous treated wastewater**	Volume/Weight Released (provide units) **greater than 25 bbls**	Volume/Weight Recovered (provide units) **Volume unknown, free liquids were recovered and pumped into the refinery process sewer (which feed into the refinery wastewater treatment plant).**

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Cause of Release

The refinery experienced a power outage at 19:41 on 9/23/18 that lasted approximately 6 hours. The power outage caused a wastewater surge tank (T-897) to overflow into the refinery process area containment, which drains into the refinery process sewers. Some of the released wastewater overtopped the secondary containment and then flowed through a nearby road culvert to a depression north of the wastewater treatment unit. The release location and extent of the release area outside the secondary containment is shown on the attached figure. The release did not reach any watercourses.

The release from the surge tank occurred at 19:44 on 9/23/18. However, the occurrence and duration of the release (i.e., overtopping) from the refinery process area containment is unknown. Free liquids were recovered from outside the secondary containment and placed into the refinery process sewer. A sample representative of the released wastewater was collected for laboratory analysis. Laboratory results and further assessment actions are pending.

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the responsible party consider this a major release?
☒ Yes ☐ No	**Release volume is estimated to be greater than 25 bbls.**

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Robert Combs (Navajo) called and left a voicemail for Carl Chavez (Oil Conservation Division) on 9/24/18 at 16:04.

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

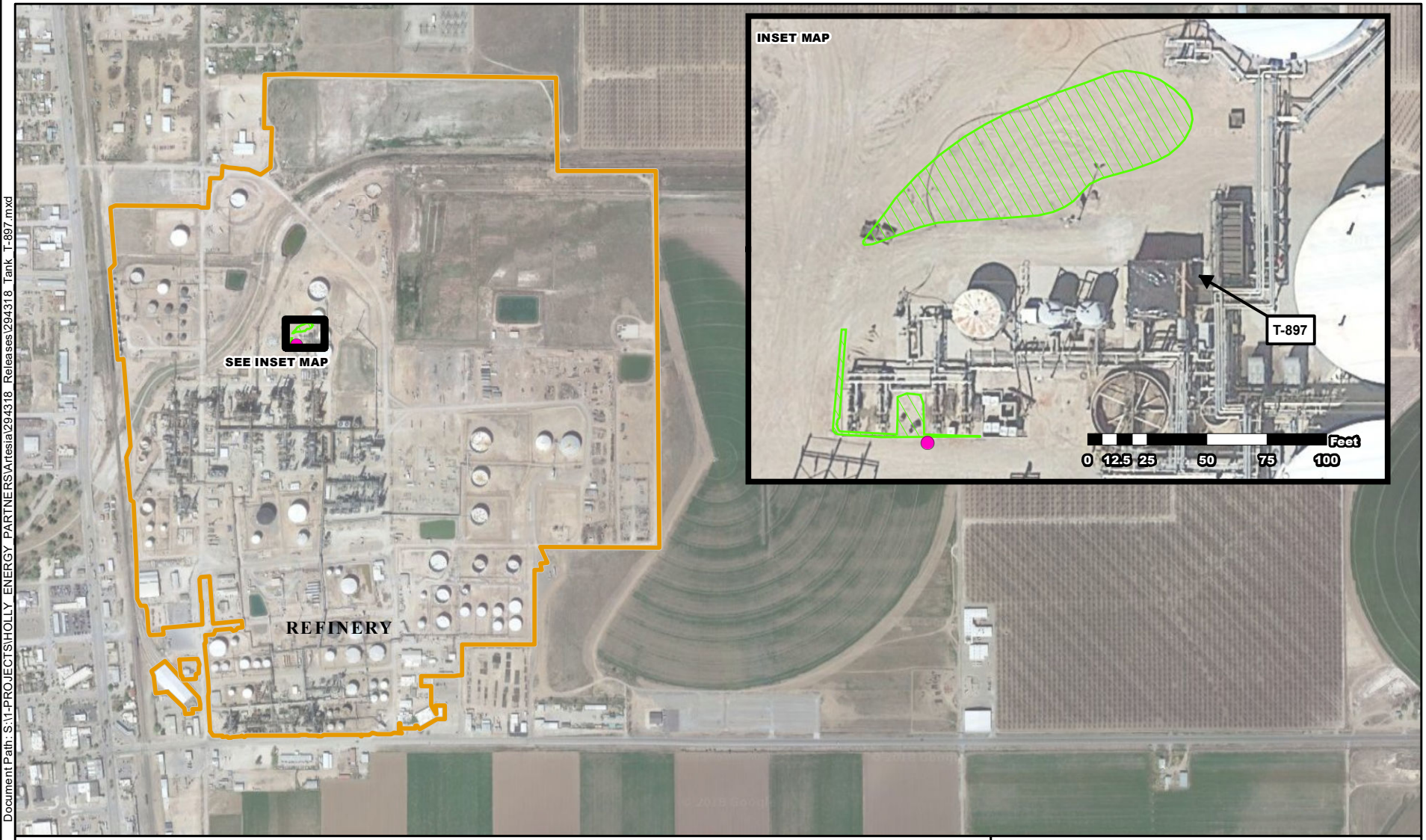
Printed Name: **Robert Combs** Title: **Environmental Specialist**

Signature: [signature] Date: 9/28/18

email: **Robert.Combs@hollyfrontier.com** Telephone: **575-746-5382**

OCD Only

Received by: _____ Date: _____



Document Path: S:\1-PROJECTS\HOLLY_ENERGY_PARTNERS\Artesia\294318_Releases\294318_Tank_T-897.mxd

LEGEND

- WASTEWATER TREATMENT PLANT TREATED WASTEWATER RELEASE LOCATION FROM SECONDARY CONTAINMENT (9/23/18)
- EXTENT OF RELEASE
- FENCELINE

N

0 500 1,000
Feet

SOURCE: BASE MAP AERIAL IMAGE FROM GOOGLE EARTH AND THEIR DATA PARTNERS, 3/12/2016.

SEPTEMBER 2018 WASTEWATER RELEASE, TANK T-897 AT REFINERY WASTEWATER TREATMENT PLANT
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

PROJECT NUMBER: 294318	FILE NAME: 294318_Tank_T-897
AUTHOR: MHORN	DATE: 9/28/2018

TRC
505 E. HUNTLAND DR.
SUITE 250
AUSTIN, TX 78752
PH:512-329-6080

FIGURE 1

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, November 29, 2017 10:38 AM
To: 'Combs, Robert'
Cc: Denton, Scott; Sahba, Arsin M.; Dade, Lewis (Randy); Griswold, Jim, EMNRD
Subject: RE: 2017-10-22 Effluent Pipeline Release

Robert, et al.:

The New Mexico Oil Conservation Division (OCD) approves the corrective action(s) approach for the above subject release documented by Navajo below.

OCD awaits the receipt of the Final C-141 with attachments verifying soils have been remediated from the pipeline release.

Please contact me if you have questions. Thank you.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505
Ph. (505) 476-3490
E-mail: CarlJ.Chavez@state.nm.us
"Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?" (To see how, go to: http://www.emnrd.state.nm.us/OCD and see "Publications")

From: Combs, Robert [mailto:Robert.Combs@HollyFrontier.com]
Sent: Wednesday, November 1, 2017 6:56 AM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Cc: Denton, Scott <Scott.Denton@HollyFrontier.com>; Sahba, Arsin M. <Arsin.Sahba@HollyFrontier.com>; Dade, Lewis (Randy) <Lewis.Dade@HollyFrontier.com>
Subject: RE: 2017-10-22 Effluent Pipeline Release

Carl,

Please see below for our remediation plan for the wastewater effluent release on 10/22/17. The release occurred from the Navajo pipeline that conveys treated wastewater from Navajo's Artesia Refinery (refinery) to injection wells for disposal in accordance with Discharge Permit GW-028 and UIC permits.

1. Actions completed:
    a. Operations noticed flow and pressure changes and immediately shut down the pipeline.
    b. The leak location was found and area was excavated to enable repairs of the line.
    c. The impacted area was defined by wet soil, there was no staining present. Personnel used paint to outline the wet area.

d. Free liquids, primarily from within the excavation, were removed by vacuum truck and returned to the refinery.

e. A sample of the discharge water was collected near the pipeline pumps within the refinery and submitted for analysis of WQCC constituents (20.6.2.3103 A-C).

f. Soil removed from the excavation was segregated by appearance with wet soil defined as impacted and dry soil as not impacted.

g. The line was put back in service on 10/24/17.

2. Future Actions Pending Completion:

a. Backfill of the excavation is underway utilizing sand from an off-site source to fill around the pipeline and will be completed using the dry excavation material. This is ongoing and expected to be complete by 11/3/17.

b. The wet impacted soil from the line repair excavation will be characterized and disposed.

c. Five discrete surface samples will be collected from within the outlined area to provide impacted concentrations and five discrete samples will be collected outside of the wet area to provide background concentrations. The samples will be analyzed for COCs that exceeded WQCC standards in the water effluent collected within the refinery. One duplicate sample will be collected from within the spill area and background location. Based on the attached preliminary report for the released water, the soil will be analyzed for fluoride, chloride, sulfate, iron, and DRO. Adequate sample volume will be collected for potential SPLP analysis.

d. If the samples within the spill area (surface impacts) exceed the average concentrations of the background samples, those parameters will be analyzed for SPLP to determine leachability. If the SPLP concentrations exceed the WQCC standards, then those areas that exceed will be excavated to average background concentrations.

e. Excavation of the area with SPLP exceedances will be limited due to the presence of several other buried pipelines and will proceed as needed.

f. Confirmation samples will be collected from the bottom of the excavation for surface impacts. The confirmation samples will be analyzed for the same constituents that exceeded the WQCC standard for SPLP and results will be compared to the average background concentrations. The confirmation samples will also be analyzed for SPLP if concentrations exceed the average background concentrations. Additional excavation will be conducted as necessary.

g. A letter report with findings and actions taken will be prepared and submitted to OCD with the Final C-141 form. This submittal will include all analytical reports, photos, copies of any waste manifests, and a discussion of the investigation findings.

We intend to implement this remediation plan (Item 2 above) by 11/3/17. Please reply to this email with any comments, or give me a call to discuss.

Thanks,
Robert

Robert Combs
Environmental Specialist
The HollyFrontier Companies
P.O. Box 159

Artesia, NM 88211-0159
office: 575-746-5382
cell: 575-308-2718
fax: 575-746-5451
Robert.Combs@hollyfrontier.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Tuesday, October 31, 2017 4:51 PM
To: Combs, Robert
Subject: RE: 2017-10-22 Effluent Pipeline Release

Robert:

The New Mexico Oil Conservation Division is in receipt of your C-141 submittal and will respond soon.

Also, after speaking with you this afternoon, a remediation plan will soon be submitted.

Thank you.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505
Ph. (505) 476-3490
E-mail: CarlJ.Chavez@state.nm.us
"Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?" (To see how, go to: http://www.emnrd.state.nm.us/OCD **and see "Publications")**

From: Combs, Robert [mailto:Robert.Combs@HollyFrontier.com]
Sent: Friday, October 27, 2017 3:34 PM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Cc: Denton, Scott <Scott.Denton@HollyFrontier.com>; Sahba, Arsin M. <Arsin.Sahba@HollyFrontier.com>; Dade, Lewis (Randy) <Lewis.Dade@HollyFrontier.com>; Orosco, Richard <Richard.Orosco@HollyFrontier.com>
Subject: 2017-10-22 Effluent Pipeline Release

Carl,
Please see the attached initial C-141 form for the effluent pipeline release from 10/22/17.
If you have any questions please call to discuss.
Thanks,
Robert

Robert Combs
Environmental Specialist
The HollyFrontier Companies
P.O. Box 159
Artesia, NM 88211-0159
office: 575-746-5382
cell: 575-308-2718
fax: 575-746-5451
Robert.Combs@hollyfrontier.com

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Chavez, Carl J, EMNRD

From: Combs, Robert <Robert.Combs@HollyFrontier.com>
Sent: Friday, October 27, 2017 3:34 PM
To: Chavez, Carl J, EMNRD
Cc: Denton, Scott; Sahba, Arsin M.; Dade, Lewis (Randy); Orosco, Richard
Subject: 2017-10-22 Effluent Pipeline Release
Attachments: 2017-10-22 Effluent Leak Initial C-141.pdf

Carl,
Please see the attached initial C-141 form for the effluent pipeline release from 10/22/17.
If you have any questions please call to discuss.
Thanks,
Robert

Robert Combs
Environmental Specialist
The HollyFrontier Companies
P.O. Box 159
Artesia, NM 88211-0159
office: 575-746-5382
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fax: 575-746-5451
Robert.Combs@hollyfrontier.com

District I
1625 N. French Dr., Hobbs, NM 88240
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District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: HollyFrontier Navajo Refining LLC	Contact Robert Combs
Address: 501 E. Main, Artesia, NM 88210	Telephone No. 575-746-5382
Facility Name: HollyFrontier Navajo Refining LLC	Facility Type Petroleum Refinery

Surface Owner	Mineral Owner	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County

Latitude 32°51'12.59"N **Longitude** 104°22'41.30"W NAD83

NATURE OF RELEASE

Type of Release Treated Refinery waste water effluent	Volume of Release: >25 bbls	Volume Recovered: TBD
Source of Release Effluent pipeline	Date and Hour of Occurrence 10/22/17, ~9:15 a.m.	Date and Hour of Discovery 10/22/17, ~11:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Carl Chavez, OCD Santa Fe, left message	
By Whom? Robert Combs	Date and Hour 10/22/17 1:05 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* The treated waste water effluent pipeline developed a leak at approximately 9:15 a.m. on 10/22/17 as determined by the decrease in the effluent line pressure and increase in discharge flow. The pipeline pumps were shut down immediately.

Describe Area Affected and Cleanup Action Taken.*
The leak location was identified at approximately 11:00 a.m. on 10/22/17 at the Bolton Rd crossing, adjacent to Eagle Draw; an aerial photo is attached with the spill location indicated. The leak occurred within a steel cased section of the pipeline that passes below Bolton Rd. The water reached the surface on the east side of Bolton Rd and flowed to the south and southeast of the leak location, but did not enter Eagle Draw. A contract company was called to excavate and make line repairs. Soil was piled along the sidewalls of the waterway and impacted soil was segregated based on appearance (no staining present, only based on wet soil). Vacuum trucks were used to recover free liquid and returned the water to the refinery. The recovered volume will be reported with the final C-141 form.
A water sample was collected from the pipeline near the effluent pipeline pumps and submitted for analysis of WQCC standards (20.6.2.3103A-C NMAC). Pending those results, the site will be characterized for any parameters that exceed the standards.
The segregated (wet) material will be disposed at a non-hazardous waste facility as well as any remediation waste from the surface cleanup, if appropriate.
A final C-141 form will be submitted following these actions as well as photos, analytical results, and any disposal records.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Robert Combs	Approved by Environmental Specialist:	
Title: Environmental Specialist	Approval Date:	Expiration Date:
E-mail Address: robert.combs@hollyfrontier.com	Conditions of Approval:	Attached ☐
Date: 10/27/17 Phone: 575-746-5382		

* Attach Additional Sheets If Necessary

HFNR Release 10/22/17

Release location and spill area

Legend

10/22/17 WW Effluent Release Location, 32°51'12.59"N, 104°22'41.30"W

Analytical Report
Lab Order **1710C41**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Client Sample ID: TRIP BLANK
Project:
Collection Date:
Lab ID: 1710C41-002
Matrix: TRIP BLANK
Received Date: 10/24/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.0096		µg/L	1	10/25/2017 11:08:44 PM	34591
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Toluene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Ethylbenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Naphthalene	ND	2.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1-Methylnaphthalene	ND	4.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
2-Methylnaphthalene	ND	4.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Acetone	ND	10		µg/L	1	10/25/2017 9:53:00 AM	R46616
Bromobenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Bromodichloromethane	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Bromoform	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Bromomethane	ND	3.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
2-Butanone	ND	10		µg/L	1	10/25/2017 9:53:00 AM	R46616
Carbon disulfide	ND	10		µg/L	1	10/25/2017 9:53:00 AM	R46616
Carbon Tetrachloride	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Chlorobenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Chloroethane	ND	2.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Chloroform	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Chloromethane	ND	3.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
2-Chlorotoluene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
4-Chlorotoluene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
cis-1,2-DCE	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Dibromochloromethane	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Dibromomethane	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,1-Dichloroethane	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,1-Dichloroethene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,2-Dichloropropane	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Client Sample ID: TRIP BLANK
Project:
Collection Date:
Lab ID: 1710C41-002 **Matrix:** TRIP BLANK **Received Date:** 10/24/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,3-Dichloropropane	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
2,2-Dichloropropane	ND	2.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,1-Dichloropropene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Hexachlorobutadiene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
2-Hexanone	ND	10		µg/L	1	10/25/2017 9:53:00 AM	R46616
Isopropylbenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
4-Isopropyltoluene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
4-Methyl-2-pentanone	ND	10		µg/L	1	10/25/2017 9:53:00 AM	R46616
Methylene Chloride	ND	3.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
n-Butylbenzene	ND	3.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
n-Propylbenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
sec-Butylbenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Styrene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
tert-Butylbenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
trans-1,2-DCE	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Trichlorofluoromethane	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Vinyl chloride	ND	1.0		µg/L	1	10/25/2017 9:53:00 AM	R46616
Xylenes, Total	ND	1.5		µg/L	1	10/25/2017 9:53:00 AM	R46616
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	1	10/25/2017 9:53:00 AM	R46616
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	10/25/2017 9:53:00 AM	R46616
Surr: Dibromofluoromethane	103	70-130		%Rec	1	10/25/2017 9:53:00 AM	R46616
Surr: Toluene-d8	100	70-130		%Rec	1	10/25/2017 9:53:00 AM	R46616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1710C41**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Project:
Lab ID: 1710C41-001 **Matrix:** AQUEOUS

Client Sample ID: Waste Water Effluent to Wells
Collection Date: 10/23/2017 9:45:00 AM
Received Date: 10/24/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **JLF**	
Arsenic	0.019	0.0010	*	mg/L	1	10/25/2017 9:34:41 PM	C46652
Lead	ND	0.00050		mg/L	1	10/25/2017 9:34:41 PM	C46652
Selenium	0.041	0.0010		mg/L	1	10/25/2017 9:34:41 PM	C46652
Uranium	0.00070	0.00050		mg/L	1	10/25/2017 9:34:41 PM	C46652
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	30	2.0	*	mg/L	20	10/25/2017 9:36:11 AM	R46679
Chloride	710	25		mg/L	50	10/25/2017 12:17:30 PM	R46679
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	10/25/2017 9:23:47 AM	R46679
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	10/25/2017 9:23:47 AM	R46679
Sulfate	920	10		mg/L	20	10/25/2017 9:36:11 AM	R46679
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2680	40.0	*D	mg/L	1	10/26/2017 8:06:00 PM	34626
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.88		H	pH units	1	10/26/2017 5:49:34 PM	R46730
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Aluminum	0.34	0.020	*	mg/L	1	10/25/2017 7:52:43 PM	A46658
Barium	0.010	0.0020		mg/L	1	10/25/2017 7:52:43 PM	A46658
Boron	0.13	0.040		mg/L	1	10/25/2017 7:52:43 PM	A46658
Cadmium	ND	0.0020		mg/L	1	10/25/2017 7:52:43 PM	A46658
Chromium	ND	0.0060		mg/L	1	10/25/2017 7:52:43 PM	A46658
Cobalt	ND	0.0060		mg/L	1	10/25/2017 7:52:43 PM	A46658
Copper	ND	0.0060		mg/L	1	10/25/2017 7:52:43 PM	A46658
Iron	1.8	0.20	*	mg/L	10	10/25/2017 7:59:56 PM	A46658
Manganese	0.14	0.0020	*	mg/L	1	10/25/2017 7:52:43 PM	A46658
Molybdenum	0.014	0.0080		mg/L	1	10/25/2017 7:52:43 PM	A46658
Nickel	ND	0.010		mg/L	1	10/25/2017 7:52:43 PM	A46658
Silver	ND	0.0050		mg/L	1	10/25/2017 7:52:43 PM	A46658
Zinc	0.094	0.010		mg/L	1	10/25/2017 7:52:43 PM	A46658
EPA METHOD 245.1: MERCURY						Analyst: **MED**	
Mercury	ND	0.00020		mg/L	1	10/27/2017 12:52:27 PM	34672
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.0092		µg/L	1	10/25/2017 10:53:29 PM	34591
EPA METHOD 8082A: PCB'S						Analyst: **SCC**	
Aroclor 1016	ND	1.0		µg/L	1	10/26/2017 2:09:00 PM	34612
Aroclor 1221	ND	1.0		µg/L	1	10/26/2017 2:09:00 PM	34612
Aroclor 1232	ND	1.0		µg/L	1	10/26/2017 2:09:00 PM	34612

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Qualifiers:

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Analytical Report
Lab Order **1710C41**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Project:
Lab ID: 1710C41-001 **Matrix:** AQUEOUS

Client Sample ID: Waste Water Effluent to Wells
Collection Date: 10/23/2017 9:45:00 AM
Received Date: 10/24/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082A: PCB'S						Analyst: **SCC**	
Aroclor 1242	ND	1.0		µg/L	1	10/26/2017 2:09:00 PM	34612
Aroclor 1248	ND	1.0		µg/L	1	10/26/2017 2:09:00 PM	34612
Aroclor 1254	ND	1.0		µg/L	1	10/26/2017 2:09:00 PM	34612
Aroclor 1260	ND	1.0		µg/L	1	10/26/2017 2:09:00 PM	34612
Surr: Decachlorobiphenyl	67.6	50.4-123		%Rec	1	10/26/2017 2:09:00 PM	34612
Surr: Tetrachloro-m-xylene	64.8	41.2-147		%Rec	1	10/26/2017 2:09:00 PM	34612
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **TOM**	
Diesel Range Organics (DRO)	7.2	1.0		mg/L	1	10/27/2017 9:11:41 AM	34668
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/27/2017 9:11:41 AM	34668
Surr: DNOP	119	77.5-161		%Rec	1	10/27/2017 9:11:41 AM	34668
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.10	D	mg/L	2	10/25/2017 10:25:51 AM	G46639
Surr: BFB	114	69.3-150	D	%Rec	2	10/25/2017 10:25:51 AM	G46639
EPA METHOD 8310: PAHS						Analyst: **SCC**	
Naphthalene	ND	2.0		µg/L	1	10/26/2017 12:18:00 PM	34613
1-Methylnaphthalene	ND	2.0		µg/L	1	10/26/2017 12:18:00 PM	34613
2-Methylnaphthalene	ND	2.0		µg/L	1	10/26/2017 12:18:00 PM	34613
Acenaphthylene	ND	2.5		µg/L	1	10/26/2017 12:18:00 PM	34613
Acenaphthene	ND	2.0		µg/L	1	10/26/2017 12:18:00 PM	34613
Fluorene	ND	0.80		µg/L	1	10/26/2017 12:18:00 PM	34613
Phenanthrene	ND	0.60		µg/L	1	10/26/2017 12:18:00 PM	34613
Anthracene	ND	0.60		µg/L	1	10/26/2017 12:18:00 PM	34613
Fluoranthene	ND	0.30		µg/L	1	10/26/2017 12:18:00 PM	34613
Pyrene	ND	0.30		µg/L	1	10/26/2017 12:18:00 PM	34613
Benz(a)anthracene	ND	0.070		µg/L	1	10/26/2017 12:18:00 PM	34613
Chrysene	ND	0.20		µg/L	1	10/26/2017 12:18:00 PM	34613
Benzo(b)fluoranthene	ND	0.10		µg/L	1	10/26/2017 12:18:00 PM	34613
Benzo(k)fluoranthene	ND	0.070		µg/L	1	10/26/2017 12:18:00 PM	34613
Benzo(a)pyrene	ND	0.070		µg/L	1	10/26/2017 12:18:00 PM	34613
Dibenz(a,h)anthracene	ND	0.12		µg/L	1	10/26/2017 12:18:00 PM	34613
Benzo(g,h,i)perylene	ND	0.12		µg/L	1	10/26/2017 12:18:00 PM	34613
Indeno(1,2,3-cd)pyrene	ND	0.25		µg/L	1	10/26/2017 12:18:00 PM	34613
Surr: Benzo(e)pyrene	83.6	49.1-127		%Rec	1	10/26/2017 12:18:00 PM	34613
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Toluene	7.0	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Ethylbenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Project:
Lab ID: 1710C41-001 **Matrix:** AQUEOUS

Client Sample ID: Waste Water Effluent to Wells
Collection Date: 10/23/2017 9:45:00 AM
Received Date: 10/24/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Methyl tert-butyl ether (MTBE)	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,2,4-Trimethylbenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,3,5-Trimethylbenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,2-Dichloroethane (EDC)	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,2-Dibromoethane (EDB)	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Naphthalene	ND	4.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1-Methylnaphthalene	ND	8.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
2-Methylnaphthalene	ND	8.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Acetone	27	20	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Bromobenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Bromodichloromethane	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Bromoform	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Bromomethane	ND	6.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
2-Butanone	ND	20	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Carbon disulfide	ND	20	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Carbon Tetrachloride	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Chlorobenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Chloroethane	ND	4.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Chloroform	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Chloromethane	ND	6.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
2-Chlorotoluene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
4-Chlorotoluene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
cis-1,2-DCE	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
cis-1,3-Dichloropropene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,2-Dibromo-3-chloropropane	ND	4.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Dibromochloromethane	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Dibromomethane	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,2-Dichlorobenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,3-Dichlorobenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,4-Dichlorobenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Dichlorodifluoromethane	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,1-Dichloroethane	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,1-Dichloroethene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,2-Dichloropropane	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,3-Dichloropropane	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
2,2-Dichloropropane	ND	4.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,1-Dichloropropene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Hexachlorobutadiene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
2-Hexanone	ND	20	D	µg/L	2	10/25/2017 9:23:00 AM	R46616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Client Sample ID: Waste Water Effluent to Wells
Project:
Collection Date: 10/23/2017 9:45:00 AM
Lab ID: 1710C41-001 **Matrix:** AQUEOUS **Received Date:** 10/24/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Isopropylbenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
4-Isopropyltoluene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
4-Methyl-2-pentanone	ND	20	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Methylene Chloride	ND	6.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
n-Butylbenzene	ND	6.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
n-Propylbenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
sec-Butylbenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Styrene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
tert-Butylbenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,1,1,2-Tetrachloroethane	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,1,2,2-Tetrachloroethane	ND	4.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Tetrachloroethene (PCE)	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
trans-1,2-DCE	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
trans-1,3-Dichloropropene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,2,3-Trichlorobenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,2,4-Trichlorobenzene	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,1,1-Trichloroethane	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,1,2-Trichloroethane	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Trichloroethene (TCE)	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Trichlorofluoromethane	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
1,2,3-Trichloropropane	ND	4.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Vinyl chloride	ND	2.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Xylenes, Total	ND	3.0	D	µg/L	2	10/25/2017 9:23:00 AM	R46616
Surr: 1,2-Dichloroethane-d4	99.8	70-130	D	%Rec	2	10/25/2017 9:23:00 AM	R46616
Surr: 4-Bromofluorobenzene	96.9	70-130	D	%Rec	2	10/25/2017 9:23:00 AM	R46616
Surr: Dibromofluoromethane	103	70-130	D	%Rec	2	10/25/2017 9:23:00 AM	R46616
Surr: Toluene-d8	101	70-130	D	%Rec	2	10/25/2017 9:23:00 AM	R46616
TOTAL PHENOLICS BY SW-846 9067						Analyst: **SCC**	
Phenolics	39	2.5		µg/L	1	10/26/2017	34649

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Qualifiers:

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Wet Chemistry by Method 4500CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	0.0117		0.00500	1	10/30/2017 13:10	WG1036070