AP__111___

C-141s

(5)

State of New Mexico
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6313
Phone (505) 476-6000 Fax (505) 476-6030
www.env.nm.gov

SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

BUTCH TONGATE
Cabinet Secretary
J. C. BORREGO
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

March 15, 2018

William Bailey
Environmental Supervisor
Western Refining, Southwest Inc., Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

RE: INFORMATION REQUEST
PETROLEUM RELEASE NEAR STP-1
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-MISC

Dear Mr. Bailey:

The New Mexico Environment Department (NMED) is in receipt of the Western Refining Southwest, Inc. Gallup (Permittee) initial spill release report regarding a naphtha release that was discovered east of pond STP-1 on February 6, 2018.

The Permittee met its obligation under the Resource Conservation and Recovery Act Permit's (Permit) Section II.C.2.c (24 Hour and Subsequent Reporting) for the 24-hour reporting and written initial spill report requirements. The Permittee called NMED's spill reporting phone line and left a message at 22:33 on Wednesday, February 7, 2018 to report a release of "less than 25 barrels" of naphtha. The Permittee also contacted the New Mexico Energy, Minerals, and Natural Resource Department (EMNRD) Oil Conservation Division (OCD) to report the release. Subsequently, the Permittee emailed an initial spill report to both NMED and OCD with additional details regarding the release.

The Permittee is responsible under Permit Section IV.B.4 (Future Releases) to conduct a response action and submit a response action report within one year of the discovery of the release. Due to the nature of the release and the history of releases, the following information sought by the comments below must be submitted prior to submittal of the Response Action Report. The Permittee may refer to their responses to this Information Request in the Response Action Report.

Additionally, it is highly recommended that the Permittee seek input from both NMED and OCD before proceeding with interim measures or corrective actions to ensure that the Permittee meets the regulatory requirements for both agencies and avoids unnecessary use of resources. Provide responses to the following comments and questions in a letter addressed to both agencies:

Comment 1
The initial spill report states, "a mixture of petroleum product (20%) and water was found releasing out of a 4" diameter PVC pipe that discharges into a stormwater drainage ditch south of STP-1." Provide information to address the following questions:

1) Where does the PVC pipe originate?
2) Is the PVC pipe connected to other piping? If so, what do the other pipes convey?
3) How was the 20:80 ratio of petroleum:water determined?
4) Does the PVC pipe usually discharge stormwater? What are the source areas for the stormwater captured (e.g., process area, office, parking lot)?
5) If one source is stormwater, is the stormwater sampled?

Comment 2
The Permittee states that, "[i]nvestigations into the source upstream of the discharge point continued into the following day (February 7, 2018). After obtaining some drawings of project work that had taken place near STP-1, site personnel began excavating a suspect area. At approximately 5 feet below substrate hydrocarbon-saturated soil was encountered in the area east of STP-1." Provide information regarding underground lines east of STP-1 and whether any of the underground lines convey naphtha. Provide schematic drawings of the underground piping back to the refinery and tank farms. Describe the distance between the pipe outlet, the suspect area, and underground piping for naphtha, and the location(s) of naphtha storage.

Comment 3
The Permittee also notified NMED of a discovered release on March 27, 2017, where naphtha was seeping out of the ground from a carbon steel pipe, which was the sour naphtha line to Tank 567. It appears that underground piping at the facility may be corroding. Underground pipeline leaks may be contributing to the contaminants in soil and groundwater downgradient from the process and tank areas. NMED recommends that the Permittee coordinate with OCD to conduct Hydrostatic Tests ("HST") of underground pipelines at the facility. Provide NMED with the timeline for the HST after coordinating with OCD.

Comment 4
In the initial spill report, the Permittee states, "[a]t 08:30 pm, it was determined that the catch basins were not preventing any further release to ground. According to the initial calculations, the on-going release is estimated to be >25bbls shortly after 10am on February 8, 2018." Describe whether naphtha reached the ground surface where the catch basins were used to try to capture the release.

Comment 5
The Permittee provided a figure depicting French drains and pipes located in the vicinity of pond STP-1. Provide additional information regarding the following:

1) Provide a fully labelled figure depicting all pipes and drain structures in the vicinity of pond STP-1.

2) Describe the lines depicted in the figure where there appears to be pipelines located along the highlighted French drain east and south of pond STP-1 and the lines that are connected to the wastewater discharge line from the wastewater treatment system and the pipeline located east of Evaporation Pond 1.

3) Discuss whether there is underground piping near STP-1 and the Aeration Basin that would affect excavations in the area.

4) Describe the purpose of the 6-inch PVC pipe on the southern end of STP-1 and where it discharges to (the drawing merely shows where it ends).

Comment 6
The Permittee states, "[s]ite personnel continue to monitor the catch basin and utilize a vacuum truck to transfer its contents back into the process." Describe where the wastewater is being added back into the wastewater treatment system. Because of on-going issues regarding underground piping leaks from the sewer system, the Permittee must ensure that products are not re-introduced at locations that will result in additional releases to the subsurface.

Comment 7
Reminders regarding soil excavations include:

1) Waste characterization samples (toxicity characteristic leaching procedure (TCLP)) must be collected from the excavated soil. The number of waste characterization samples must be based on the amount of soils excavated (e.g., one sample per 25 cubic yards of waste, or similar).

2) To confirm that contaminated soils were removed, confirmation samples must be collected from the excavation (sidewalls and base of excavation) and analyzed for total volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), metals, gasoline range organics (GRO), diesel range organics (DRO), and oil range organics (ORO). Once soil cleanup is confirmed, then the excavation may be backfilled. If the

Permittee removes soils and does not confirm that all contaminants were removed, the Permittee must conduct additional sampling to demonstrate that residual contamination is less than the corresponding screening levels.

The Permittee must address all comments in this letter and submit a response to NMED and OCD by no later than **June 29, 2018**. The response letter must cross-reference the numbered comments in this letter. Please also provide a plan for underground line testing to NMED and OCD for review no later than **November 30, 2018**.

If you have questions regarding this letter, please contact Kristen Van Horn of my staff at 505-476-6046.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: K. Van Horn NMED HWB
M. Suzuki NMED HWB
C. Chavez OCD
J. O'Brien, Andeavor
L. King EPA Region 6

File: Reading File and WRG 2018 File
HWB-WRG-18-MISC

Chavez, Carl J, EMNRD

From: O'Brien, Jessica L <Jessica.L.OBrien@andeavor.com>
Sent: Thursday, February 8, 2018 9:21 AM
To: Chavez, Carl J, EMNRD
Cc: VanHorn, Kristen, NMENV; Pruner, Dave
Subject: Gallup Refinery Naphtha release
Attachments: draft C-141 Naphtha Release.doc; Approx Location of French Drain.pdf

Carl,
Per our recent phone conversation, I've attached a Form C-141 regarding the on-going naphtha release. I'll update you as we gain more information during our investigation into the source. The area that some excavation was completed is shown by the green highlighted French drain to the right of STP-1.

Sincerely,

Jessica O'Brien
Environmental Consent Decree Specialist
EHS&S – Environmental Department
Jessica.L.Obrien@andeavor.com

Andeavor
19100 Ridgewood Parkway
San Antonio, Texas 78259
o: 210 626 7774
c: 409 454 3777
andeavor.com

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

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: Western Refining	Contact: Jessica O'Brien
Address: I-40 Exit 39, Jamestown, NM 87347	Telephone No: (505) 722-0287
Facility Name: Gallup Refinery	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
	28	**15N**	**15W**					**McKinley**

Latitude 35°29'20.29"N Longitude 108°25'41.13"N NAD83

NATURE OF RELEASE

Type of Release: Naphtha	Volume of Release >25bbls, on-going	Volume Recovered: On-going
Source of Release: Under investigation, (4" diameter PVC pipe)	Date and Hour of Occurrence 02/6/2018 @ 11:00 am	Date and Hour of Discovery 02/7/2018 @ 8:30 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Carl Chavez, OCD District 3 (left voicemail)	
By Whom? Jessica O'Brien	Date and Hour 02/07/2018 @ 9:15pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*N/A

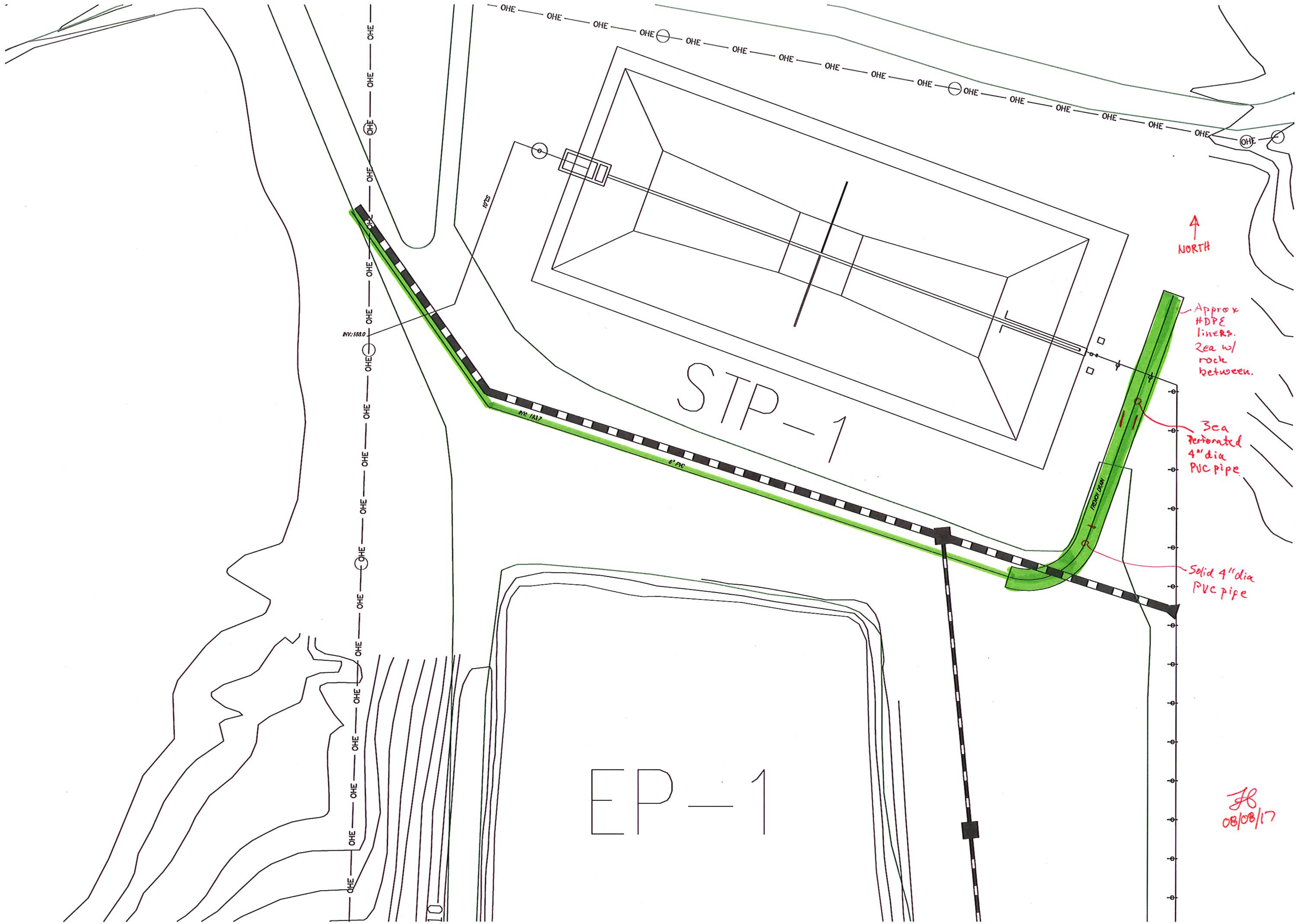
Describe Cause of Problem and Remedial Action Taken.* On February 6, 2018 at approximately 11:00am a mixture of petroleum product (20%) and water was found releasing out of a 4" diameter PVC pipe that discharges into a stormwater drainage ditch south of STP-1. Sample analysis indicated the product to be naphtha. The flow from the pipe was estimated to be 1.7 gallons per minute. The drainage ditch feeds into a small collection pond that is equipped with a drain valve. This valve has remained closed and no product has been discharged from the pond. A catch basin was placed beneath the PVC pipe to prevent any further release of product to the ground. Site personnel continue to monitor the catch basin and utilize a vacuum truck to transfer its contents back into the process. Based on the flow rate and 20% percent content of naphtha, the release to ground was estimated to be less than 25 bbls. Investigations into the source upstream of the discharge point continued into the following day (February 7, 2018). After obtaining some drawings of project work that had taken place near STP-1, site personnel began excavating a suspect area. At approximately 5 feet below substrate hydrocarbon-saturated soil was encountered in the area east of STP-1. At 08:30 pm, it was determined that the catch basins were not preventing any further release to ground. According to the initial calculations, the on-going release is estimated to be >25bbls shortly after 10am on February 8, 2018. Due to safety concerns, excavation work was stopped. Investigative work will continue.

Describe Area Affected and Cleanup Action Taken.* Affected area is near southeast corner and east side of STP-1. Release from 4" PVC pipe is being contained and recycled back into the process.

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: Jessica L. O'Brien	OIL CONSERVATION DIVISION
Printed Name: Jessica O'Brien	Approved by Environmental Specialist:
Title: Environmental Supervisor	Approval Date: / Expiration Date:
E-mail Address: Jessica.l.o'brien@andeavor.com	Conditions of Approval: / Attached ☐
Date: February 8, 2019 Phone: (505) 722-0287	

* Attach Additional Sheets If Necessary



OHE
STP-1
EP-1
NORTH
Approx HDPE liners. 2ea w/ rock between.
3ea Perforated 4" dia PVC pipe
Solid 4" dia PVC pipe
08/08/17

Chavez, Carl J, EMNRD

From: Vestal, Janelle <Janelle.Vestal@andeavor.com>
Sent: Wednesday, January 3, 2018 1:24 PM
To: VanHorn, Kristen, NMENV
Cc: Kieling, John, NMENV; Chavez, Carl J, EMNRD; O'Brien, Jessica L; Pruner, Dave
Subject: RE: Release discovery Alky unit sewer
Attachments: 180103 alky sewer line leak drawing - revised.pdf

Good Afternoon Kristen,

On December 21, dirt was being excavated in an area that contains an 8" sewer line that crosses from an old ASO pit north of the Alky Unit. As dirt was removed from around the sewer line, a leak started. A plug was installed in the upstream sewer box to isolate the leaking sewer line. Approximately 100 gallons of material (water and ASO) leaked into the excavated area and was vacuumed out of the excavated area.

Attached please find a drawing showing the location of the sewer leak discovered on December 21.

Please let me know if you have additional questions,

Janelle Vestal | Environmental Engineer
Andeavor
o: 505 726 9721
m: 505 285 8193
Janelle.Vestal@andeavor.com

andeavor

From: Vestal, Janelle
Sent: Wednesday, December 27, 2017 6:24 PM
To: VanHorn, Kristen, NMENV <kristen.vanhorn@state.nm.us>
Cc: Kieling, John, NMENV <john.kieling@state.nm.us>
Subject: Re: Release discovery Alky unit sewer

Hi Kristen,
I am on vacation this week, but I will get you the information when I return to the office next week.

Thanks,
Janelle Vestal

Get Outlook for iOS

From: VanHorn, Kristen, NMENV <Kristen.VanHorn@state.nm.us>
Sent: Tuesday, December 26, 2017 9:41:55 AM
To: Vestal, Janelle
Cc: Kieling, John, NMENV
Subject: Release discovery Alky unit sewer

Hi Janelle-

I received the voicemail you left on Friday, December 22nd regarding the discovery of a release from the alky sewer discovered on Thursday the 21st. Please provide a figure that shows where the leak was discovered and update the amount of material from the release once you've been able to calculate, etc.

Thank you,
Kristen

KRISTEN VAN HORN
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building 1
Santa Fe, NM 87505
(505) 476-6046

LEVINGSTON ENGINEERS, INC.

PAGE _____ OF _____

JOB NO. _____

CLIENT _____ REF. _____

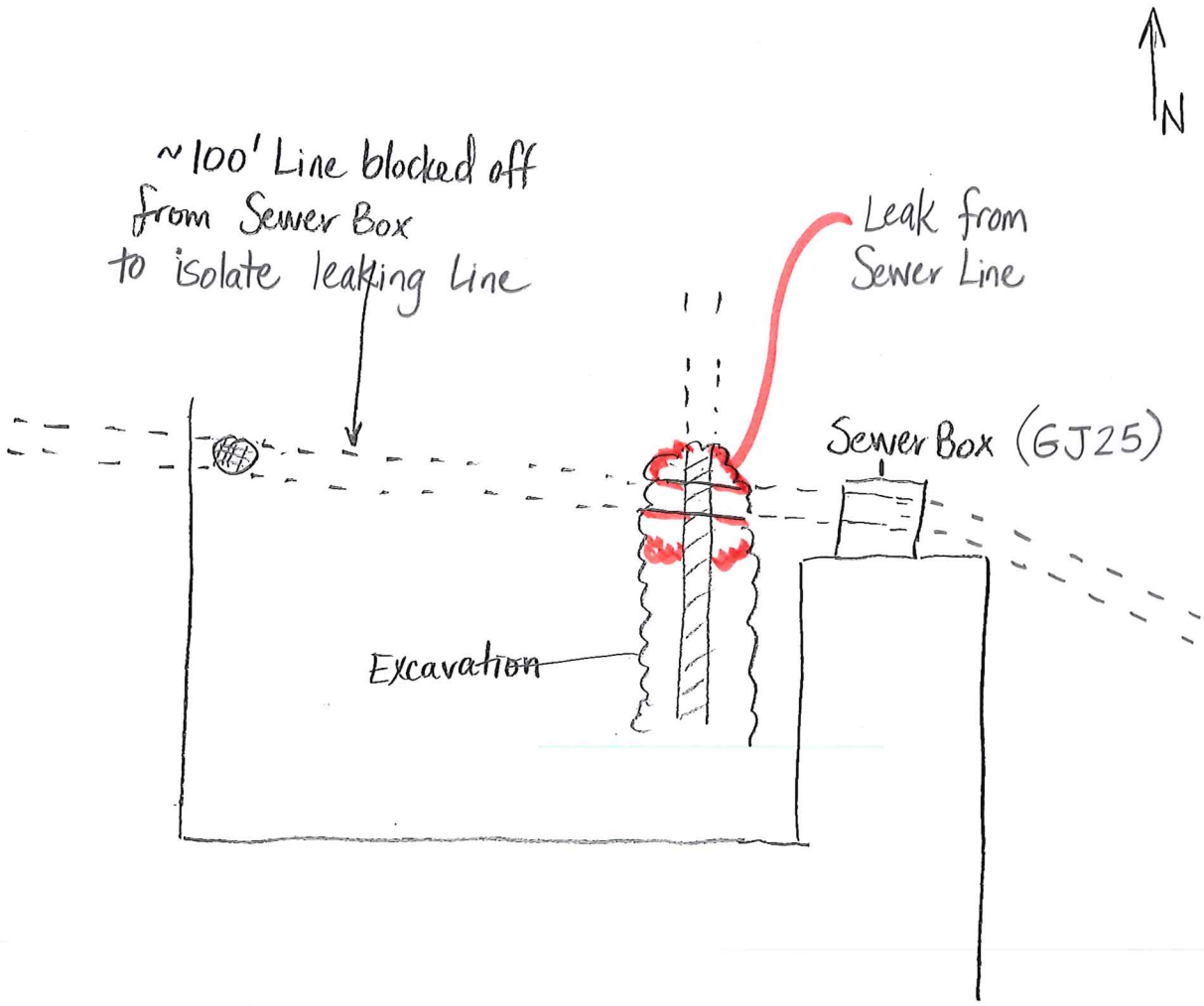
DATE _____

JOB _____

BY _____

SUBJECT _____

CHECKED BY _____



ALKY

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, January 2, 2018 12:03 PM
To: 'Janelle.vestal@andeavor.com'
Cc: VanHorn, Kristen, NMENV; Griswold, Jim, EMNRD
Subject: FW: Release discovery Alky unit sewer

Janelle:

Hi. Please also copy the New Mexico Oil Conservation Division (OCD) on releases at the facility.

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: VanHorn, Kristen, NMENV
Sent: Tuesday, December 26, 2017 9:59 AM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Subject: FW: Release discovery Alky unit sewer

FYI…

From: VanHorn, Kristen, NMENV
Sent: Tuesday, December 26, 2017 9:42 AM
To: 'Janelle.vestal@andeavor.com' <Janelle.vestal@andeavor.com>
Cc: Kieling, John, NMENV <john.kieling@state.nm.us>
Subject: Release discovery Alky unit sewer

Hi Janelle-
I received the voicemail you left on Friday, December 22nd regarding the discovery of a release from the alky sewer discovered on Thursday the 21st. Please provide a figure that shows where the leak was discovered and update the amount of material from the release once you've been able to calculate, etc.

Thank you,
Kristen

KRISTEN VAN HORN
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building 1

Chavez, Carl J, EMNRD

From: Johnson, Cheryl A <Cheryl.A.Johnson@andeavor.com>
Sent: Thursday, August 31, 2017 6:42 AM
To: Kieling, John, NMENV; Chavez, Carl J, EMNRD; VanHorn, Kristen, NMENV
Cc: Hains, Allen S; Bailey, William M
Subject: C-141 - Naphtha Leak and RRR Gasoline Spill
Attachments: NMED-OCD Resp 083017.pdf; C-141-Naphtha Leak-(Initial-Final) 83017.pdf; C-141-Gasoline Spill Initial 8-30-17.pdf

Good Morning:

Attached are the C-141 Forms for the above referenced spills. A hard copy will also be sent today via US Mail. Should you have any questions, please call or e-mail.

Thank you,

cj

Cheryl Johnson
Environmental Specialist

Andeavor - Gallup Refinery
92 Giant Crossing Road
Gallup, NM 87301
505 722 0231 Direct
505 863-0930 Fax
505 722 3833 Main
Cheryl.A.Johnson@andeavor.com

Western Refining
GALLUP

WNR LISTED NYSE

August 30, 2017

Mr. John Kieling, Chief
New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

RE: SPILL AND RELEASE REPORTING REQUIREMENTS
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211; WRG-17-MISC

Dear Mr. Kieling:

Enclosed are the initial C-141 Reports for releases that occurred on March 26, 2017, (Naphtha Release) and on May 7, 2017 (Gasoline release at the railroad rack). Although both releases were verbally reported to both the NMED-HWB and the NM-OCD, the initial C-141 Form reporting both releases was not completed and forwarded to both agencies as required by Permit Section II.C.3, and subsequent permit modification (Section IV-B.4.a).

Please contact me or Cheryl Johnson, Environmental Specialist (505) 722-0231, should you have any questions.

Sincerely,

William Bailey

William Bailey
Environmental Supervisor
William.M.Bailey@andeavor.com
505-726-9473

Attachments
cc: C Chavez – NM–OCD
K Van Horn – NM-HWB
C Johnson – WNR-GLP
A Haines - WNR-El Paso

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

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: Western Refining	Contact: Cheryl Johnson
Address: I-40 Exit 39, Jamestown, NM 87347	Telephone No: 505 722 0231
Facility Name: Gallup Refinery	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
	28	**15N**	**15W**					**McKinley**

Latitude 35°29'20.29"N Longitude 108°25'41.13"W NAD83

NATURE OF RELEASE

Type of Release: Sour Naphtha	Volume of Release: < 5 bbls	Volume Recovered: None
Source of Release: Underground pipe leak	Date and Hour of Occurrence: 03/26/17 @ 10:00 AM	Date and Hour of Discovery: 03/26/17 @ 10:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? C Smith/NMED	
By Whom? Bill Bailey	Date and Hour: 03/27/17 @ 10:00 AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.* While operator was making his rounds, he smelled naphtha in the air and found a saturated area in the middle of the road where the naphtha was seeping up from the ground (See Figure 1,) and flowed in a westerly direction down the road for approximately 332 feet. Operator notified RSM, Environmental and Kurtz who responded by applying foam to the area to minimize vapors. Operator immediately isolated the line by blocking in valves. Area was isolated and taped off. Maintenance was notified to install earthen berms to control the flow of the spill. No injuries or fires were reported from this release.

Describe Area Affected and Cleanup Action Taken.* Area of the seep was approximately 4 ft x 4 ft section in the middle of the road. Area was excavated to a depth of 4 feet and found an underground 3 inch carbon steel pipe (sour naphtha line to Tank 567) with a 1 inch corroded hole. Maintenance replaced the damaged section of the line. The impacted soil surrounding the area was excavated and placed inside 30 yard bins for disposal. Six locations inside the excavated area were sampled (Figure 2) and sent off for analysis. Based on the analytical (Attachment A), the soil was treated as a hazardous waste (D018), soil with Benzene and sent offsite for disposal. Copies of the manifest are attached (Attachment B). The area was backfilled with clean soil and roadway was re-opened. All impacted soil from the spill was cleaned up from the site and disposed of.

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: Cheryl Johnson	Approved by Environmental Specialist:	
Title: Environmental Specialist	Approval Date:	Expiration Date:
E-mail Address: Cheryl.a.johnson@andeavor.com	Conditions of Approval:	Attached ☐
Date: 08-30-2017 Phone:505-722-0231		

* Attach Additional Sheets If Necessary

FIGURE 1

Flow of sour naphtha leak – downward slope of road in a westerly direction.

FIGURE 2

Sample Locations:

1. **Bottom near break**
2. **Bottom near break**
3. **East wall near break**
4. **West wall near break**
5. **West wall (8 to 10 ft.) from break**
6. **West wall (8 to 10 ft.) from break**

Excavated area: (Estimated at 20 ft. x 4 ft. x 4 ft. deep)

Pipe: 3” carbon steel pipe with a 1 inch diameter corroded hole.

ATTACHMENT A

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 21, 2017

William Bailey

Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301
TEL:
FAX

RE: Naptha Line Spill OrderNo.: 1704176

Dear William Bailey:

Hall Environmental Analysis Laboratory received 6 sample(s) on 4/5/2017 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued April 13, 2017.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #1
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:30:00 AM
Lab ID: 1704176-001
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	25	1.4	8.8		mg/Kg	1	4/10/2017 1:46:18 PM	31151
Motor Oil Range Organics (MRO)	ND	44	44		mg/Kg	1	4/10/2017 1:46:18 PM	31151
Surr: DNOP	112	0	70-130		%Rec	1	4/10/2017 1:46:18 PM	31151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	4200	110	500		mg/Kg	100	4/6/2017 8:36:44 PM	31106
Surr: BFB	139	0	54-150		%Rec	100	4/6/2017 8:36:44 PM	31106
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	0.13	0.035	0.25	J	mg/Kg	1	4/10/2017 6:52:53 AM	31138
1-Methylnaphthalene	ND	0.025	0.25		mg/Kg	1	4/10/2017 6:52:53 AM	31138
2-Methylnaphthalene	ND	0.025	0.25		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Acenaphthylene	ND	0.021	0.25		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Acenaphthene	ND	0.024	0.25		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Fluorene	ND	0.0022	0.030		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Phenanthrene	0.058	0.0012	0.015		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Anthracene	0.019	0.0011	0.015		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Fluoranthene	0.065	0.0020	0.020		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Pyrene	0.076	0.0024	0.025		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Benz(a)anthracene	0.031	0.00059	0.020		mg/Kg	2	4/10/2017 11:55:16 AM	31138
Chrysene	0.017	0.0014	0.0099		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Benzo(b)fluoranthene	0.017	0.00049	0.0099		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Benzo(k)fluoranthene	0.014	0.00040	0.0099		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Benzo(a)pyrene	0.023	0.00059	0.020		mg/Kg	2	4/10/2017 11:55:16 AM	31138
Dibenz(a,h)anthracene	0.0037	0.00059	0.0099	J	mg/Kg	1	4/10/2017 6:52:53 AM	31138
Benzo(g,h,i)perylene	0.013	0.00040	0.0099		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Indeno(1,2,3-cd)pyrene	0.013	0.0024	0.0099		mg/Kg	1	4/10/2017 6:52:53 AM	31138
Surr: Benzo(e)pyrene	77.0	0	32.4-163		%Rec	1	4/10/2017 6:52:53 AM	31138
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Chloride	270	1.3	30		mg/Kg	20	4/7/2017 3:21:41 PM	31127
Sulfate	30	7.1	30		mg/Kg	20	4/7/2017 3:21:41 PM	31127
MERCURY, TCLP							Analyst: **pmf**	
Mercury	ND	0.00050	0.020		mg/L	1	4/10/2017 2:08:24 PM	31159
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Arsenic	ND	0.024	5.0		mg/L	1	4/10/2017 10:43:30 AM	31140
Barium	3.1	0.0015	100	J	mg/L	1	4/10/2017 10:43:30 AM	31140
Cadmium	ND	0.00080	1.0		mg/L	1	4/10/2017 10:43:30 AM	31140
Chromium	ND	0.0030	5.0		mg/L	1	4/10/2017 10:43:30 AM	31140
Lead	ND	0.0049	5.0		mg/L	1	4/10/2017 10:43:30 AM	31140

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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #1
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:30:00 AM
Lab ID: 1704176-001
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Selenium	ND	0.062	1.0		mg/L	1	4/10/2017 10:43:30 AM	31140
Silver	ND	0.0021	5.0		mg/L	1	4/10/2017 10:43:30 AM	31140
VOLATILES BY 8260B/1311							Analyst: **AG**	
Benzene	0.64	0.10	0.50		mg/L	1	4/7/2017 2:56:48 PM	31121
2-Butanone	ND	0.20	200		mg/L	1	4/7/2017 2:56:48 PM	31121
Carbon Tetrachloride	ND	0.10	0.50		mg/L	1	4/7/2017 2:56:48 PM	31121
Chlorobenzene	ND	0.10	100		mg/L	1	4/7/2017 2:56:48 PM	31121
Chloroform	ND	0.10	6.0		mg/L	1	4/7/2017 2:56:48 PM	31121
1,4-Dichlorobenzene	ND	0.10	7.5		mg/L	1	4/7/2017 2:56:48 PM	31121
1,2-Dichloroethane (EDC)	ND	0.10	0.50		mg/L	1	4/7/2017 2:56:48 PM	31121
1,1-Dichloroethene	ND	0.10	0.70		mg/L	1	4/7/2017 2:56:48 PM	31121
Hexachlorobutadiene	ND	0.10	0.50		mg/L	1	4/7/2017 2:56:48 PM	31121
Tetrachloroethene (PCE)	ND	0.10	0.70		mg/L	1	4/7/2017 2:56:48 PM	31121
Trichloroethene (TCE)	ND	0.10	0.50		mg/L	1	4/7/2017 2:56:48 PM	31121
Vinyl chloride	ND	0.10	0.20		mg/L	1	4/7/2017 2:56:48 PM	31121
Surr: 1,2-Dichloroethane-d4	89.8	0	70-130		%Rec	1	4/7/2017 2:56:48 PM	31121
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	1	4/7/2017 2:56:48 PM	31121
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	4/7/2017 2:56:48 PM	31121
Surr: Toluene-d8	95.6	0	70-130		%Rec	1	4/7/2017 2:56:48 PM	31121

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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #2
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:35:00 AM
Lab ID: 1704176-002
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	320	1.5	9.5		mg/Kg	1	4/10/2017 3:02:46 PM	31128
Motor Oil Range Organics (MRO)	100	47	47		mg/Kg	1	4/10/2017 3:02:46 PM	31128
Surr: DNOP	102	0	70-130		%Rec	1	4/10/2017 3:02:46 PM	31128
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	5900	110	500		mg/Kg	100	4/6/2017 9:00:10 PM	31106
Surr: BFB	208	0	54-150	S	%Rec	100	4/6/2017 9:00:10 PM	31106
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	0.92	0.34	2.4	J	mg/Kg	1	4/10/2017 8:07:17 AM	31138
1-Methylnaphthalene	1.3	0.24	2.4	J	mg/Kg	1	4/10/2017 8:07:17 AM	31138
2-Methylnaphthalene	0.53	0.24	2.4	J	mg/Kg	1	4/10/2017 8:07:17 AM	31138
Acenaphthylene	ND	0.20	2.4		mg/Kg	1	4/10/2017 8:07:17 AM	31138
Acenaphthene	0.70	0.23	2.4	J	mg/Kg	1	4/10/2017 8:07:17 AM	31138
Fluorene	ND	0.021	0.29		mg/Kg	1	4/10/2017 8:07:17 AM	31138
Phenanthrene	1.5	0.023	0.29		mg/Kg	2	4/10/2017 12:26:30 PM	31138
Anthracene	0.16	0.011	0.14		mg/Kg	1	4/10/2017 8:07:17 AM	31138
Fluoranthene	1.4	0.019	0.19		mg/Kg	1	4/10/2017 8:07:17 AM	31138
Pyrene	1.4	0.023	0.24		mg/Kg	1	4/10/2017 8:07:17 AM	31138
Benz(a)anthracene	0.31	0.0057	0.19		mg/Kg	2	4/10/2017 12:26:30 PM	31138
Chrysene	0.16	0.013	0.096		mg/Kg	1	4/10/2017 8:07:17 AM	31138
Benzo(b)fluoranthene	0.16	0.0048	0.096		mg/Kg	1	4/10/2017 8:07:17 AM	31138
Benzo(k)fluoranthene	0.098	0.0038	0.096		mg/Kg	1	4/10/2017 8:07:17 AM	31138
Benzo(a)pyrene	0.20	0.0057	0.19		mg/Kg	2	4/10/2017 12:26:30 PM	31138
Dibenz(a,h)anthracene	0.026	0.0057	0.096	J	mg/Kg	1	4/10/2017 8:07:17 AM	31138
Benzo(g,h,i)perylene	0.12	0.0038	0.096		mg/Kg	1	4/10/2017 8:07:17 AM	31138
Indeno(1,2,3-cd)pyrene	0.10	0.023	0.096		mg/Kg	1	4/10/2017 8:07:17 AM	31138
Surr: Benzo(e)pyrene	89.5	0	32.4-163		%Rec	1	4/10/2017 8:07:17 AM	31138
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Chloride	560	1.3	30		mg/Kg	20	4/7/2017 3:34:05 PM	31127
Sulfate	19	7.1	30	J	mg/Kg	20	4/7/2017 3:34:05 PM	31127
MERCURY, TCLP							Analyst: **pmf**	
Mercury	ND	0.00050	0.020		mg/L	1	4/10/2017 2:10:11 PM	31159
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Arsenic	ND	0.024	5.0		mg/L	1	4/10/2017 10:48:04 AM	31140
Barium	3.2	0.0015	100	J	mg/L	1	4/10/2017 10:48:04 AM	31140
Cadmium	ND	0.00080	1.0		mg/L	1	4/10/2017 10:48:04 AM	31140
Chromium	ND	0.0030	5.0		mg/L	1	4/10/2017 10:48:04 AM	31140
Lead	ND	0.0049	5.0		mg/L	1	4/10/2017 10:48:04 AM	31140

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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #2
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:35:00 AM
Lab ID: 1704176-002
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Selenium	ND	0.062	1.0		mg/L	1	4/10/2017 10:48:04 AM	31140
Silver	ND	0.0021	5.0		mg/L	1	4/10/2017 10:48:04 AM	31140
VOLATILES BY 8260B/1311							Analyst: **AG**	
Benzene	0.62	0.10	0.50		mg/L	1	4/7/2017 4:23:32 PM	31121
2-Butanone	ND	0.20	200		mg/L	1	4/7/2017 4:23:32 PM	31121
Carbon Tetrachloride	ND	0.10	0.50		mg/L	1	4/7/2017 4:23:32 PM	31121
Chlorobenzene	ND	0.10	100		mg/L	1	4/7/2017 4:23:32 PM	31121
Chloroform	ND	0.10	6.0		mg/L	1	4/7/2017 4:23:32 PM	31121
1,4-Dichlorobenzene	ND	0.10	7.5		mg/L	1	4/7/2017 4:23:32 PM	31121
1,2-Dichloroethane (EDC)	ND	0.10	0.50		mg/L	1	4/7/2017 4:23:32 PM	31121
1,1-Dichloroethene	ND	0.10	0.70		mg/L	1	4/7/2017 4:23:32 PM	31121
Hexachlorobutadiene	ND	0.10	0.50		mg/L	1	4/7/2017 4:23:32 PM	31121
Tetrachloroethene (PCE)	ND	0.10	0.70		mg/L	1	4/7/2017 4:23:32 PM	31121
Trichloroethene (TCE)	ND	0.10	0.50		mg/L	1	4/7/2017 4:23:32 PM	31121
Vinyl chloride	ND	0.10	0.20		mg/L	1	4/7/2017 4:23:32 PM	31121
Surr: 1,2-Dichloroethane-d4	94.1	0	70-130		%Rec	1	4/7/2017 4:23:32 PM	31121
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	4/7/2017 4:23:32 PM	31121
Surr: Dibromofluoromethane	98.2	0	70-130		%Rec	1	4/7/2017 4:23:32 PM	31121
Surr: Toluene-d8	96.4	0	70-130		%Rec	1	4/7/2017 4:23:32 PM	31121

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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #3
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:40:00 AM
Lab ID: 1704176-003
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	360	16	100		mg/Kg	10	4/10/2017 12:17:24 PM	31128
Motor Oil Range Organics (MRO)	ND	500	500		mg/Kg	10	4/10/2017 12:17:24 PM	31128
Surr: DNOP	0	0	70-130	S	%Rec	10	4/10/2017 12:17:24 PM	31128
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	9800	110	500		mg/Kg	100	4/6/2017 9:23:28 PM	31106
Surr: BFB	260	0	54-150	S	%Rec	100	4/6/2017 9:23:28 PM	31106
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	1.3	0.34	2.4	J	mg/Kg	1	4/10/2017 8:44:40 AM	31138
1-Methylnaphthalene	1.1	0.24	2.4	J	mg/Kg	1	4/10/2017 8:44:40 AM	31138
2-Methylnaphthalene	ND	0.24	2.4		mg/Kg	1	4/10/2017 8:44:40 AM	31138
Acenaphthylene	ND	0.20	2.4		mg/Kg	1	4/10/2017 8:44:40 AM	31138
Acenaphthene	ND	0.23	2.4		mg/Kg	1	4/10/2017 8:44:40 AM	31138
Fluorene	ND	0.021	0.29		mg/Kg	1	4/10/2017 8:44:40 AM	31138
Phenanthrene	0.062	0.012	0.14	J	mg/Kg	1	4/10/2017 8:44:40 AM	31138
Anthracene	ND	0.011	0.14		mg/Kg	1	4/10/2017 8:44:40 AM	31138
Fluoranthene	0.27	0.019	0.19		mg/Kg	1	4/10/2017 8:44:40 AM	31138
Pyrene	0.30	0.023	0.24		mg/Kg	1	4/10/2017 8:44:40 AM	31138
Benz(a)anthracene	0.096	0.0029	0.096		mg/Kg	1	4/10/2017 8:44:40 AM	31138
Chrysene	0.062	0.013	0.096	J	mg/Kg	1	4/10/2017 8:44:40 AM	31138
Benzo(b)fluoranthene	0.041	0.0048	0.096	J	mg/Kg	1	4/10/2017 8:44:40 AM	31138
Benzo(k)fluoranthene	0.031	0.0038	0.096	J	mg/Kg	1	4/10/2017 8:44:40 AM	31138
Benzo(a)pyrene	0.060	0.0029	0.096	J	mg/Kg	1	4/10/2017 8:44:40 AM	31138
Dibenz(a,h)anthracene	0.017	0.0058	0.096	J	mg/Kg	1	4/10/2017 8:44:40 AM	31138
Benzo(g,h,i)perylene	0.043	0.0038	0.096	J	mg/Kg	1	4/10/2017 8:44:40 AM	31138
Indeno(1,2,3-cd)pyrene	ND	0.023	0.096		mg/Kg	1	4/10/2017 8:44:40 AM	31138
Surr: Benzo(e)pyrene	82.5	0	32.4-163		%Rec	1	4/10/2017 8:44:40 AM	31138
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Chloride	54	1.3	30		mg/Kg	20	4/7/2017 3:46:29 PM	31127
Sulfate	15	7.1	30	J	mg/Kg	20	4/7/2017 3:46:29 PM	31127
MERCURY, TCLP							Analyst: **pmf**	
Mercury	ND	0.00050	0.020		mg/L	1	4/10/2017 2:11:59 PM	31159
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Arsenic	ND	0.024	5.0		mg/L	1	4/10/2017 10:49:35 AM	31140
Barium	3.3	0.0015	100	J	mg/L	1	4/10/2017 10:49:35 AM	31140
Cadmium	ND	0.00080	1.0		mg/L	1	4/10/2017 10:49:35 AM	31140
Chromium	ND	0.0030	5.0		mg/L	1	4/10/2017 10:49:35 AM	31140
Lead	ND	0.0049	5.0		mg/L	1	4/10/2017 10:49:35 AM	31140

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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #3
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:40:00 AM
Lab ID: 1704176-003
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Selenium	ND	0.062	1.0		mg/L	1	4/10/2017 10:49:35 AM	31140
Silver	ND	0.0021	5.0		mg/L	1	4/10/2017 10:49:35 AM	31140
VOLATILES BY 8260B/1311							Analyst: **AG**	
Benzene	0.72	0.10	0.50		mg/L	1	4/7/2017 4:52:25 PM	31121
2-Butanone	ND	0.20	200		mg/L	1	4/7/2017 4:52:25 PM	31121
Carbon Tetrachloride	ND	0.10	0.50		mg/L	1	4/7/2017 4:52:25 PM	31121
Chlorobenzene	ND	0.10	100		mg/L	1	4/7/2017 4:52:25 PM	31121
Chloroform	ND	0.10	6.0		mg/L	1	4/7/2017 4:52:25 PM	31121
1,4-Dichlorobenzene	ND	0.10	7.5		mg/L	1	4/7/2017 4:52:25 PM	31121
1,2-Dichloroethane (EDC)	ND	0.10	0.50		mg/L	1	4/7/2017 4:52:25 PM	31121
1,1-Dichloroethene	ND	0.10	0.70		mg/L	1	4/7/2017 4:52:25 PM	31121
Hexachlorobutadiene	ND	0.10	0.50		mg/L	1	4/7/2017 4:52:25 PM	31121
Tetrachloroethene (PCE)	ND	0.10	0.70		mg/L	1	4/7/2017 4:52:25 PM	31121
Trichloroethene (TCE)	ND	0.10	0.50		mg/L	1	4/7/2017 4:52:25 PM	31121
Vinyl chloride	ND	0.10	0.20		mg/L	1	4/7/2017 4:52:25 PM	31121
Surr: 1,2-Dichloroethane-d4	97.5	0	70-130		%Rec	1	4/7/2017 4:52:25 PM	31121
Surr: 4-Bromofluorobenzene	109	0	70-130		%Rec	1	4/7/2017 4:52:25 PM	31121
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	4/7/2017 4:52:25 PM	31121
Surr: Toluene-d8	93.7	0	70-130		%Rec	1	4/7/2017 4:52:25 PM	31121

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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #4
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:45:00 AM
Lab ID: 1704176-004
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	250	15	94		mg/Kg	10	4/10/2017 12:39:33 PM	31128
Motor Oil Range Organics (MRO)	ND	470	470		mg/Kg	10	4/10/2017 12:39:33 PM	31128
Surr: DNOP	0	0	70-130	S	%Rec	10	4/10/2017 12:39:33 PM	31128
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	7300	110	500		mg/Kg	100	4/6/2017 9:46:51 PM	31106
Surr: BFB	215	0	54-150	S	%Rec	100	4/6/2017 9:46:51 PM	31106
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	0.95	0.35	2.4	J	mg/Kg	1	4/10/2017 9:15:55 AM	31138
1-Methylnaphthalene	0.90	0.24	2.4	J	mg/Kg	1	4/10/2017 9:15:55 AM	31138
2-Methylnaphthalene	ND	0.25	2.4		mg/Kg	1	4/10/2017 9:15:55 AM	31138
Acenaphthylene	ND	0.21	2.4		mg/Kg	1	4/10/2017 9:15:55 AM	31138
Acenaphthene	ND	0.24	2.4		mg/Kg	1	4/10/2017 9:15:55 AM	31138
Fluorene	ND	0.022	0.29		mg/Kg	1	4/10/2017 9:15:55 AM	31138
Phenanthrene	ND	0.012	0.15		mg/Kg	1	4/10/2017 9:15:55 AM	31138
Anthracene	ND	0.011	0.15		mg/Kg	1	4/10/2017 9:15:55 AM	31138
Fluoranthene	0.024	0.020	0.20	J	mg/Kg	1	4/10/2017 9:15:55 AM	31138
Pyrene	0.039	0.023	0.24	J	mg/Kg	1	4/10/2017 9:15:55 AM	31138
Benz(a)anthracene	0.0073	0.0029	0.098	J	mg/Kg	1	4/10/2017 9:15:55 AM	31138
Chrysene	ND	0.014	0.098		mg/Kg	1	4/10/2017 9:15:55 AM	31138
Benzo(b)fluoranthene	0.0049	0.0049	0.098	J	mg/Kg	1	4/10/2017 9:15:55 AM	31138
Benzo(k)fluoranthene	ND	0.0039	0.098		mg/Kg	1	4/10/2017 9:15:55 AM	31138
Benzo(a)pyrene	0.0073	0.0029	0.098	J	mg/Kg	1	4/10/2017 9:15:55 AM	31138
Dibenz(a,h)anthracene	ND	0.0059	0.098		mg/Kg	1	4/10/2017 9:15:55 AM	31138
Benzo(g,h,i)perylene	0.012	0.0039	0.098	J	mg/Kg	1	4/10/2017 9:15:55 AM	31138
Indeno(1,2,3-cd)pyrene	ND	0.023	0.098		mg/Kg	1	4/10/2017 9:15:55 AM	31138
Surr: Benzo(e)pyrene	95.5	0	32.4-163		%Rec	1	4/10/2017 9:15:55 AM	31138
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Chloride	750	1.3	30		mg/Kg	20	4/7/2017 3:58:53 PM	31127
Sulfate	34	7.1	30		mg/Kg	20	4/7/2017 3:58:53 PM	31127
MERCURY, TCLP							Analyst: **pmf**	
Mercury	ND	0.00050	0.020		mg/L	1	4/10/2017 2:13:47 PM	31159
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Arsenic	ND	0.024	5.0		mg/L	1	4/10/2017 10:51:05 AM	31140
Barium	3.5	0.0015	100	J	mg/L	1	4/10/2017 10:51:05 AM	31140
Cadmium	ND	0.00080	1.0		mg/L	1	4/10/2017 10:51:05 AM	31140
Chromium	ND	0.0030	5.0		mg/L	1	4/10/2017 10:51:05 AM	31140
Lead	ND	0.0049	5.0		mg/L	1	4/10/2017 10:51:05 AM	31140

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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #4
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:45:00 AM
Lab ID: 1704176-004
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Selenium	ND	0.062	1.0		mg/L	1	4/10/2017 10:51:05 AM	31140
Silver	ND	0.0021	5.0		mg/L	1	4/10/2017 10:51:05 AM	31140
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	25	0.098	0.50	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Toluene	220	0.40	5.0	H	mg/Kg	100	4/20/2017 3:29:40 PM	31106
Ethylbenzene	120	0.35	5.0	H	mg/Kg	100	4/20/2017 3:29:40 PM	31106
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,2,4-Trimethylbenzene	67	0.087	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,3,5-Trimethylbenzene	28	0.063	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,2-Dichloroethane (EDC)	ND	0.10	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,2-Dibromoethane (EDB)	ND	0.13	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Naphthalene	0.83	0.10	2.0	JH	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1-Methylnaphthalene	0.45	0.071	4.0	JH	mg/Kg	20	4/20/2017 3:58:36 PM	31106
2-Methylnaphthalene	0.44	0.081	4.0	JH	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Acetone	ND	1.1	15	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Bromobenzene	ND	0.073	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Bromodichloromethane	ND	0.13	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Bromoform	ND	0.24	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Bromomethane	ND	0.17	3.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
2-Butanone	ND	0.59	10	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Carbon disulfide	ND	0.12	10	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Carbon tetrachloride	ND	0.098	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Chlorobenzene	ND	0.059	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Chloroethane	ND	0.33	2.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Chloroform	ND	0.060	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Chloromethane	ND	0.21	3.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
2-Chlorotoluene	ND	0.077	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
4-Chlorotoluene	ND	0.090	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
cis-1,2-DCE	ND	0.13	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
cis-1,3-Dichloropropene	ND	0.076	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,2-Dibromo-3-chloropropane	0.16	0.14	2.0	JH	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Dibromochloromethane	ND	0.084	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Dibromomethane	ND	0.049	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,2-Dichlorobenzene	ND	0.050	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,3-Dichlorobenzene	ND	0.088	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,4-Dichlorobenzene	ND	0.11	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Dichlorodifluoromethane	ND	0.41	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,1-Dichloroethane	ND	0.40	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,1-Dichloroethene	ND	0.40	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106

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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #4
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:45:00 AM
Lab ID: 1704176-004
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloropropane	ND	0.062	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,3-Dichloropropane	ND	0.25	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
2,2-Dichloropropane	ND	0.11	2.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,1-Dichloropropene	ND	0.11	2.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Hexachlorobutadiene	ND	0.25	2.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
2-Hexanone	ND	0.19	10	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Isopropylbenzene	19	0.067	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
4-Isopropyltoluene	3.4	0.076	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
4-Methyl-2-pentanone	ND	0.21	10	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Methylene chloride	ND	0.40	3.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
n-Butylbenzene	4.0	0.089	3.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
n-Propylbenzene	27	0.062	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
sec-Butylbenzene	4.9	0.10	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Styrene	ND	0.17	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
tert-Butylbenzene	0.19	0.081	1.0	JH	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,1,1,2-Tetrachloroethane	ND	0.11	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,1,2,2-Tetrachloroethane	ND	0.29	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Tetrachloroethene (PCE)	ND	0.080	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
trans-1,2-DCE	ND	0.40	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
trans-1,3-Dichloropropene	ND	0.12	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,2,3-Trichlorobenzene	0.14	0.091	2.0	JH	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,2,4-Trichlorobenzene	0.14	0.10	1.0	JH	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,1,1-Trichloroethane	ND	0.13	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,1,2-Trichloroethane	ND	0.11	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Trichloroethene (TCE)	ND	0.12	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Trichlorofluoromethane	ND	0.15	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
1,2,3-Trichloropropane	ND	0.50	2.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Vinyl chloride	ND	0.083	1.0	H	mg/Kg	20	4/20/2017 3:58:36 PM	31106
Xylenes, Total	330	1.6	10	H	mg/Kg	100	4/20/2017 3:29:40 PM	31106
Surr: Dibromofluoromethane	70.6		70-130	H	%Rec	20	4/20/2017 3:58:36 PM	31106
Surr: 1,2-Dichloroethane-d4	88.4		70-130	H	%Rec	20	4/20/2017 3:58:36 PM	31106
Surr: Toluene-d8	105		70-130	H	%Rec	20	4/20/2017 3:58:36 PM	31106
Surr: 4-Bromofluorobenzene	101		70-130	H	%Rec	20	4/20/2017 3:58:36 PM	31106
VOLATILES BY 8260B/1311							Analyst: **rde**	
Benzene	0.88	0.10	0.50		mg/L	1	4/10/2017 1:42:00 PM	31139
2-Butanone	ND	0.20	200		mg/L	1	4/10/2017 1:42:00 PM	31139
Carbon Tetrachloride	ND	0.10	0.50		mg/L	1	4/10/2017 1:42:00 PM	31139
Chlorobenzene	ND	0.10	100		mg/L	1	4/10/2017 1:42:00 PM	31139
Chloroform	ND	0.10	6.0		mg/L	1	4/10/2017 1:42:00 PM	31139

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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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #4
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:45:00 AM
Lab ID: 1704176-004
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
VOLATILES BY 8260B/1311							Analyst: **rde**	
1,4-Dichlorobenzene	ND	0.10	7.5		mg/L	1	4/10/2017 1:42:00 PM	31139
1,2-Dichloroethane (EDC)	ND	0.10	0.50		mg/L	1	4/10/2017 1:42:00 PM	31139
1,1-Dichloroethene	ND	0.10	0.70		mg/L	1	4/10/2017 1:42:00 PM	31139
Hexachlorobutadiene	ND	0.10	0.50		mg/L	1	4/10/2017 1:42:00 PM	31139
Tetrachloroethene (PCE)	ND	0.10	0.70		mg/L	1	4/10/2017 1:42:00 PM	31139
Trichloroethene (TCE)	ND	0.10	0.50		mg/L	1	4/10/2017 1:42:00 PM	31139
Vinyl chloride	ND	0.10	0.20		mg/L	1	4/10/2017 1:42:00 PM	31139
Surr: 1,2-Dichloroethane-d4	83.0	0	70-130		%Rec	1	4/10/2017 1:42:00 PM	31139
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	4/10/2017 1:42:00 PM	31139
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	4/10/2017 1:42:00 PM	31139
Surr: Toluene-d8	94.3	0	70-130		%Rec	1	4/10/2017 1:42:00 PM	31139

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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #5
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:50:00 AM
Lab ID: 1704176-005
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	70	1.6	10		mg/Kg	1	4/10/2017 2:34:32 PM	31128
Motor Oil Range Organics (MRO)	ND	52	52		mg/Kg	1	4/10/2017 2:34:32 PM	31128
Surr: DNOP	93.8	0	70-130		%Rec	1	4/10/2017 2:34:32 PM	31128
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	3000	110	500		mg/Kg	100	4/6/2017 10:10:07 PM	31106
Surr: BFB	121	0	54-150		%Rec	100	4/6/2017 10:10:07 PM	31106
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	0.36	0.34	2.4	J	mg/Kg	1	4/10/2017 9:47:11 AM	31138
1-Methylnaphthalene	0.49	0.24	2.4	J	mg/Kg	1	4/10/2017 9:47:11 AM	31138
2-Methylnaphthalene	ND	0.24	2.4		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Acenaphthylene	ND	0.20	2.4		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Acenaphthene	ND	0.23	2.4		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Fluorene	ND	0.021	0.29		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Phenanthrene	ND	0.011	0.14		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Anthracene	ND	0.010	0.14		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Fluoranthene	0.041	0.019	0.19	J	mg/Kg	1	4/10/2017 9:47:11 AM	31138
Pyrene	0.038	0.023	0.24	J	mg/Kg	1	4/10/2017 9:47:11 AM	31138
Benz(a)anthracene	0.0072	0.0029	0.095	J	mg/Kg	1	4/10/2017 9:47:11 AM	31138
Chrysene	ND	0.013	0.095		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Benzo(b)fluoranthene	ND	0.0048	0.095		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Benzo(k)fluoranthene	ND	0.0038	0.095		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Benzo(a)pyrene	ND	0.0029	0.095		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Dibenz(a,h)anthracene	ND	0.0057	0.095		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Benzo(g,h,i)perylene	0.0072	0.0038	0.095	J	mg/Kg	1	4/10/2017 9:47:11 AM	31138
Indeno(1,2,3-cd)pyrene	ND	0.023	0.095		mg/Kg	1	4/10/2017 9:47:11 AM	31138
Surr: Benzo(e)pyrene	94.0	0	32.4-163		%Rec	1	4/10/2017 9:47:11 AM	31138
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Chloride	70	1.3	30		mg/Kg	20	4/7/2017 4:11:18 PM	31127
Sulfate	96	7.1	30		mg/Kg	20	4/7/2017 4:11:18 PM	31127
MERCURY, TCLP							Analyst: **pmf**	
Mercury	ND	0.00050	0.020		mg/L	1	4/10/2017 2:15:36 PM	31159
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Arsenic	ND	0.024	5.0		mg/L	1	4/10/2017 10:52:36 AM	31140
Barium	1.3	0.0015	100	J	mg/L	1	4/10/2017 10:52:36 AM	31140
Cadmium	ND	0.00080	1.0		mg/L	1	4/10/2017 10:52:36 AM	31140
Chromium	ND	0.0030	5.0		mg/L	1	4/10/2017 10:52:36 AM	31140
Lead	ND	0.0049	5.0		mg/L	1	4/10/2017 10:52:36 AM	31140

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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #5
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:50:00 AM
Lab ID: 1704176-005
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Selenium	ND	0.062	1.0		mg/L	1	4/10/2017 10:52:36 AM	31140
Silver	ND	0.0021	5.0		mg/L	1	4/10/2017 10:52:36 AM	31140
VOLATILES BY 8260B/1311							Analyst: **rde**	
Benzene	0.63	0.10	0.50		mg/L	1	4/10/2017 2:54:00 PM	31139
2-Butanone	ND	0.20	200		mg/L	1	4/10/2017 2:54:00 PM	31139
Carbon Tetrachloride	ND	0.10	0.50		mg/L	1	4/10/2017 2:54:00 PM	31139
Chlorobenzene	ND	0.10	100		mg/L	1	4/10/2017 2:54:00 PM	31139
Chloroform	ND	0.10	6.0		mg/L	1	4/10/2017 2:54:00 PM	31139
1,4-Dichlorobenzene	ND	0.10	7.5		mg/L	1	4/10/2017 2:54:00 PM	31139
1,2-Dichloroethane (EDC)	ND	0.10	0.50		mg/L	1	4/10/2017 2:54:00 PM	31139
1,1-Dichloroethene	ND	0.10	0.70		mg/L	1	4/10/2017 2:54:00 PM	31139
Hexachlorobutadiene	ND	0.10	0.50		mg/L	1	4/10/2017 2:54:00 PM	31139
Tetrachloroethene (PCE)	ND	0.10	0.70		mg/L	1	4/10/2017 2:54:00 PM	31139
Trichloroethene (TCE)	ND	0.10	0.50		mg/L	1	4/10/2017 2:54:00 PM	31139
Vinyl chloride	ND	0.10	0.20		mg/L	1	4/10/2017 2:54:00 PM	31139
Surr: 1,2-Dichloroethane-d4	81.6	0	70-130		%Rec	1	4/10/2017 2:54:00 PM	31139
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	4/10/2017 2:54:00 PM	31139
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	4/10/2017 2:54:00 PM	31139
Surr: Toluene-d8	95.8	0	70-130		%Rec	1	4/10/2017 2:54:00 PM	31139

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
R	RPD outside accepted recovery limits	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: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #6
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:55:00 AM
Lab ID: 1704176-006
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	1.7	1.6	10	J	mg/Kg	1	4/10/2017 1:23:57 PM	31128
Motor Oil Range Organics (MRO)	ND	51	51		mg/Kg	1	4/10/2017 1:23:57 PM	31128
Surr: DNOP	106	0	70-130		%Rec	1	4/10/2017 1:23:57 PM	31128
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	5.0		mg/Kg	1	4/7/2017 12:07:09 AM	31106
Surr: BFB	89.3	0	54-150		%Rec	1	4/7/2017 12:07:09 AM	31106
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.036	0.25		mg/Kg	1	4/10/2017 10:19:59 AM	31138
1-Methylnaphthalene	ND	0.025	0.25		mg/Kg	1	4/10/2017 10:19:59 AM	31138
2-Methylnaphthalene	ND	0.025	0.25		mg/Kg	1	4/10/2017 10:19:59 AM	31138
Acenaphthylene	ND	0.021	0.25		mg/Kg	1	4/10/2017 10:19:59 AM	31138
Acenaphthene	ND	0.024	0.25		mg/Kg	1	4/10/2017 10:19:59 AM	31138
Fluorene	ND	0.0022	0.030		mg/Kg	1	4/10/2017 10:19:59 AM	31138
Phenanthrene	ND	0.0012	0.015		mg/Kg	1	4/10/2017 10:19:59 AM	31138
Anthracene	ND	0.0011	0.015		mg/Kg	1	4/10/2017 10:19:59 AM	31138
Fluoranthene	ND	0.0020	0.020		mg/Kg	1	4/10/2017 10:19:59 AM	31138
Pyrene	0.0040	0.0024	0.025	J	mg/Kg	1	4/10/2017 10:19:59 AM	31138
Benz(a)anthracene	0.00075	0.00030	0.010	J	mg/Kg	1	4/10/2017 10:19:59 AM	31138
Chrysene	ND	0.0014	0.010		mg/Kg	1	4/10/2017 10:19:59 AM	31138
Benzo(b)fluoranthene	0.00050	0.00050	0.010	J	mg/Kg	1	4/10/2017 10:19:59 AM	31138
Benzo(k)fluoranthene	ND	0.00040	0.010		mg/Kg	1	4/10/2017 10:19:59 AM	31138
Benzo(a)pyrene	0.00050	0.00030	0.010	J	mg/Kg	1	4/10/2017 10:19:59 AM	31138
Dibenz(a,h)anthracene	ND	0.00060	0.010		mg/Kg	1	4/10/2017 10:19:59 AM	31138
Benzo(g,h,i)perylene	0.00050	0.00040	0.010	J	mg/Kg	1	4/10/2017 10:19:59 AM	31138
Indeno(1,2,3-cd)pyrene	ND	0.0024	0.010		mg/Kg	1	4/10/2017 10:19:59 AM	31138
Surr: Benzo(e)pyrene	44.1	0	32.4-163		%Rec	1	4/10/2017 10:19:59 AM	31138
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Chloride	120	1.3	30		mg/Kg	20	4/7/2017 4:48:32 PM	31127
Sulfate	95	7.1	30		mg/Kg	20	4/7/2017 4:48:32 PM	31127
MERCURY, TCLP							Analyst: **pmf**	
Mercury	ND	0.00050	0.020		mg/L	1	4/10/2017 2:21:06 PM	31159
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Arsenic	ND	0.024	5.0		mg/L	1	4/10/2017 11:17:23 AM	31140
Barium	2.5	0.0015	100	J	mg/L	1	4/10/2017 11:17:23 AM	31140
Cadmium	ND	0.00080	1.0		mg/L	1	4/10/2017 11:17:23 AM	31140
Chromium	ND	0.0030	5.0		mg/L	1	4/10/2017 11:17:23 AM	31140
Lead	ND	0.0049	5.0		mg/L	1	4/10/2017 11:17:23 AM	31140

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
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Sample Location #6
Project: Naptha Line Spill
Collection Date: 3/30/2017 11:55:00 AM
Lab ID: 1704176-006
Matrix: SLUDGE
Received Date: 4/5/2017 2:18:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: TCLP METALS							Analyst: **MED**	
Selenium	ND	0.062	1.0		mg/L	1	4/10/2017 11:17:23 AM	31140
Silver	ND	0.0021	5.0		mg/L	1	4/10/2017 11:17:23 AM	31140
EPA METHOD 8260B: TCLP COMPOUNDS							Analyst: **DJF**	
Benzene	ND	0.049	0.50		ppm	10	4/6/2017 2:15:16 PM	31106
1,2-Dichloroethane (EDC)	ND	0.052	0.50		ppm	10	4/6/2017 2:15:16 PM	31106
2-Butanone	ND	0.30	200		ppm	10	4/6/2017 2:15:16 PM	31106
Carbon tetrachloride	ND	0.049	0.50		ppm	10	4/6/2017 2:15:16 PM	31106
Chlorobenzene	ND	0.030	100		ppm	10	4/6/2017 2:15:16 PM	31106
Chloroform	ND	0.030	6.0		ppm	10	4/6/2017 2:15:16 PM	31106
1,4-Dichlorobenzene	ND	0.055	7.5		ppm	10	4/6/2017 2:15:16 PM	31106
1,1-Dichloroethene	ND	0.20	0.70		ppm	10	4/6/2017 2:15:16 PM	31106
Tetrachloroethene (PCE)	ND	0.040	0.70		ppm	10	4/6/2017 2:15:16 PM	31106
Trichloroethene (TCE)	ND	0.060	0.50		ppm	10	4/6/2017 2:15:16 PM	31106
Vinyl chloride	ND	0.042	0.20		ppm	10	4/6/2017 2:15:16 PM	31106
Surr: 1,2-Dichloroethane-d4	109		70-130		%Rec	10	4/6/2017 2:15:16 PM	31106
Surr: 4-Bromofluorobenzene	89.7		70-130		%Rec	10	4/6/2017 2:15:16 PM	31106
Surr: Dibromofluoromethane	106		70-130		%Rec	10	4/6/2017 2:15:16 PM	31106
Surr: Toluene-d8	98.4		70-130		%Rec	10	4/6/2017 2:15:16 PM	31106

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Wet Chemistry by Method 9012 B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.250	1	04/10/2017 09:14	WG968433

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		25.0	1	04/07/2017 19:15	WG968481

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	9.68	T8	1	04/08/2017 11:27	WG968631

Sample Narrative:
9045D L901160-01 WG968631: 9.68 at 20.0c

Wet Chemistry by Method D93/1010A

Analyte	Result Deg. F	Qualifier	Dilution	Analysis date / time	Batch
Ignitability	128		1	04/07/2017 19:00	WG968557

Wet Chemistry by Method 9012 B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Reactive Cyanide	ND		0.250	1	04/10/2017 09:15	WG968433

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Reactive Sulfide	42.7		25.0	1	04/07/2017 19:15	WG968481

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
Corrosivity by pH	8.86	T8	1	04/08/2017 11:27	WG968631

Sample Narrative:

9045D L901160-02 WG968631: 8.86 at 19.8c

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	Deg. F			date / time	
Ignitability	77.7		1	04/07/2017 19:00	WG968557

Wet Chemistry by Method 9012 B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.250	1	04/10/2017 09:17	WG968433

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		25.0	1	04/07/2017 19:15	WG968481

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	9.19	T6	1	04/08/2017 11:27	WG968631

Sample Narrative:

9045D L901160-03 WG968631: 9.19 at 20.0c

Wet Chemistry by Method D93/1010A

Analyte	Result Deg. F	Qualifier	Dilution	Analysis date / time	Batch
Ignitability	69.7		1	04/07/2017 19:00	WG968557

Wet Chemistry by Method 9012 B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.250	1	04/10/2017 09:18	WG968433

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Sulfide	36.6		25.0	1	04/07/2017 19:15	WG968481

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	9.40	T8	1	04/08/2017 11:27	WG968631

Sample Narrative:

9045D L901160-04 WG968631: 9.40 at 20.0c

Wet Chemistry by Method D93/1010A

Analyte	Result Deg. F	Qualifier	Dilution	Analysis date / time	Batch
Ignitability	76.5		1	04/07/2017 19:00	WG968557

Wet Chemistry by Method 9012 B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.250	1	04/10/2017 09:19	WG968433

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		25.0	1	04/07/2017 19:15	WG968481

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	8.40	T6	1	04/08/2017 11:27	WG968631

Sample Narrative:

9045D L901160-05 WG968631: 8.40 at 20.2c

Wet Chemistry by Method D93/1010A

Analyte	Result Deg. F	Qualifier	Dilution	Analysis date / time	Batch
Ignitability	123		1	04/07/2017 19:00	WG968557

Wet Chemistry by Method 9012 B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.250	1	04/10/2017 09:21	WG968433

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		25.0	1	04/07/2017 19:15	WG968481

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	8.67	T8	1	04/08/2017 11:27	WG968631

Sample Narrative:

9045D L901160-06 WG968631: 8.67 at 20.4c

Wet Chemistry by Method D93/1010A

Analyte	Result Deg. F	Qualifier	Dilution	Analysis date / time	Batch
Ignitability	DNI at 170		1	04/07/2017 19:00	WG968557

Method Blank (MB)

(MB) R3209490-1 04/10/17 08:51

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
Reactive Cyanide	U		0.039	0.250

L901165-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901165-01 04/10/17 09:25 • (DUP) R3209490-7 04/10/17 09:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/kg	mg/kg		%		%
Reactive Cyanide	ND	0.000	1	200	P1	20

L901035-08 Original Sample (OS) • Duplicate (DUP)

(OS) L901035-08 04/10/17 09:01 • (DUP) R3209490-10 04/10/17 09:12

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/kg	mg/kg		%		%
Reactive Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3209490-2 04/10/17 08:53 • (LCSD) R3209490-3 04/10/17 08:54

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Reactive Cyanide	2.50	2.48	2.45	99	98	50-150			1	20

L901035-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901035-16 04/10/17 09:10 • (MS) R3209490-9 04/10/17 09:11 • (MSD) R3209490-8 04/10/17 09:03

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Reactive Cyanide	1.67	ND	1.52	1.57	87	90	1	75-125			3	20

Method Blank (MB)

(MB) WG968481-1 04/07/17 19:15

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Reactive Sulfide	U		7.63	25.0

L901160-06 Original Sample (OS) • Duplicate (DUP)

(OS) L901160-06 04/07/17 19:15 • (DUP) WG968481-4 04/07/17 19:15

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Sulfide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) WG968481-2 04/07/17 19:15 • (LCSD) WG968481-3 04/07/17 19:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Reactive Sulfide	100	73.3	79.4	73.3	79.4	70.0-130			7.99	20

L900577-01 Original Sample (OS) • Duplicate (DUP)

(OS) L900577-01 04/08/17 11:27 • (DUP) WG968631-3 04/08/17 11:27

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
Corrosivity by pH	6.74	6.72	1	0.297	T8	1

L901160-06 Original Sample (OS) • Duplicate (DUP)

(OS) L901160-06 04/08/17 11:27 • (DUP) WG968631-4 04/08/17 11:27

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
Corrosivity by pH	8.67	8.68	1	0.115	T8	1

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) WG968631-1 04/08/17 11:27 • (LCSD) WG968631-2 04/08/17 11:27

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
Corrosivity by pH	7.50	7.54	7.56	101	101	98.4-102			0.265	1

L899835-08 Original Sample (OS) • Duplicate (DUP)

(OS) L899835-08 04/07/17 19:00 • (DUP) R3209250-3 04/07/17 19:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	Deg. F	Deg. F		%		%
Ignitability	DNI at 170	DNI at 170	1	0.000		10

L901160-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901160-01 04/07/17 19:00 • (DUP) R3209250-4 04/07/17 19:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	Deg. F	Deg. F		%		%
Ignitability	128	126	1	1.00		10

L901160-02 Original Sample (OS) • Duplicate (DUP)

(OS) L901160-02 04/07/17 19:00 • (DUP) R3209250-5 04/07/17 19:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	Deg. F	Deg. F		%		%
Ignitability	77.7	80.0	1	3.00		10

L901160-03 Original Sample (OS) • Duplicate (DUP)

(OS) L901160-03 04/07/17 19:00 • (DUP) R3209250-6 04/07/17 19:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	Deg. F	Deg. F		%		%
Ignitability	69.7	70.0	1	0.000		10

L901160-04 Original Sample (OS) • Duplicate (DUP)

(OS) L901160-04 04/07/17 19:00 • (DUP) R3209250-7 04/07/17 19:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	Deg. F	Deg. F		%		%
Ignitability	76.5	75.6	1	1.00		10

L901160-05 Original Sample (OS) • Duplicate (DUP)

(OS) L901160-05 04/07/17 19:00 • (DUP) R3209250-8 04/07/17 19:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	Deg. F	Deg. F		%		%
Ignitability	123	126	1	2.00		10

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3209250-1 04/07/17 19:00 • (LCSD) R3209250-2 04/07/17 19:00

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	Deg. F	Deg. F	Deg. F	%	%	%			%	%
Ignitability	82.0	80.4	80.7	98.0	98.0	96.0-104			0.000	10

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID	**MB-31127**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**31127**	RunNo:	**41969**					
Prep Date:	**4/7/2017**	Analysis Date:	**4/7/2017**	SeqNo:	**1318741**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								
Sulfate	ND	1.5								

Sample ID	**LCS-31127**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**31127**	RunNo:	**41969**					
Prep Date:	**4/7/2017**	Analysis Date:	**4/7/2017**	SeqNo:	**1318742**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.6	90	110			
Sulfate	29	1.5	30.00	0	97.6	90	110			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **MB-31128**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **31128**	RunNo: **41990**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1318833** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		110	70	130			

Sample ID **MB-31151**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **31151**	RunNo: **41990**
Prep Date: **4/10/2017**	Analysis Date: **4/10/2017**	SeqNo: **1318834** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		102	70	130			

Sample ID **LCS-31128**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **31128**	RunNo: **41990**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1318835** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	63.8	116			
Surr: DNOP	5.0		5.000		99.7	70	130			

Sample ID **LCS-31151**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **31151**	RunNo: **41990**
Prep Date: **4/10/2017**	Analysis Date: **4/10/2017**	SeqNo: **1318836** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	63.8	116			
Surr: DNOP	4.9		5.000		97.1	70	130			

Sample ID **1704176-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **Sample Location #1**	Batch ID: **31128**	RunNo: **41990**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1319273** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	220	9.3	46.51	25.23	420	51.6	130			S
Surr: DNOP	4.9		4.651		104	70	130			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID	**1704176-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**Sample Location #1**	Batch ID:	**31128**		RunNo:	**41990**					
Prep Date:	**4/7/2017**	Analysis Date:	**4/10/2017**		SeqNo:	**1319318**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	290	10	51.02	25.23	522	51.6	130	27.7	20	RS	
Surr: DNOP	5.7		5.102		111	70	130	0	0		

Sample ID	**LCS-31157**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**LCSS**	Batch ID:	**31157**		RunNo:	**42017**					
Prep Date:	**4/10/2017**	Analysis Date:	**4/11/2017**		SeqNo:	**1319773**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	5.1		5.000		102	70	130				

Sample ID	**MB-31157**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**PBS**	Batch ID:	**31157**		RunNo:	**42017**					
Prep Date:	**4/10/2017**	Analysis Date:	**4/11/2017**		SeqNo:	**1319775**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	11		10.00		110	70	130				

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **MB-31106**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **31106**	RunNo: **41937**
Prep Date: **4/5/2017**	Analysis Date: **4/6/2017**	SeqNo: **1317204** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	890		1000		88.6	54	150			

Sample ID **LCS-31106**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **31106**	RunNo: **41937**
Prep Date: **4/5/2017**	Analysis Date: **4/6/2017**	SeqNo: **1317205** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	76.4	125			
Surr: BFB	990		1000		98.9	54	150			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **mb-31106**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **31106**	RunNo: **41936**
Prep Date: **4/5/2017**	Analysis Date: **4/6/2017**	SeqNo: **1328109** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **mb-31106**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **31106**	RunNo: **41936**
Prep Date: **4/5/2017**	Analysis Date: **4/6/2017**	SeqNo: **1328109** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: 1,2-Dichloroethane-d4	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.49		0.5000		97.9	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.7	70	130			

Sample ID **lcs-31106**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **31106**	RunNo: **41936**
Prep Date: **4/5/2017**	Analysis Date: **4/6/2017**	SeqNo: **1328110** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	110	70	130			
Toluene	0.98	0.050	1.000	0	97.8	70	130			
Chlorobenzene	0.95	0.050	1.000	0	95.4	70	130			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID	**lcs-31106**	SampType:	**LCS**	TestCode:	**EPA Method 8260B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**31106**	RunNo:	**41936**					
Prep Date:	**4/5/2017**	Analysis Date:	**4/6/2017**	SeqNo:	**1328110**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.1	0.050	1.000	0	114	72	146			
Trichloroethene (TCE)	1.0	0.050	1.000	0	100	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		103	70	130			
Surr: 1,2-Dichloroethane-d4	0.54		0.5000		109	70	130			
Surr: Toluene-d8	0.49		0.5000		99.0	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		87.0	70	130			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **mb-31106**	SampType: **MBLK**	TestCode: **EPA Method 8260B: TCLP Compounds**
Client ID: **PBS**	Batch ID: **31106**	RunNo: **41936**
Prep Date: **4/5/2017**	Analysis Date: **4/6/2017**	SeqNo: **1317261** Units: **ppm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
2-Butanone	ND	20								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	10								
Chloroform	ND	0.60								
1,4-Dichlorobenzene	ND	0.75								
1,1-Dichloroethene	ND	0.070								
Tetrachloroethene (PCE)	ND	0.070								
Trichloroethene (TCE)	ND	0.050								
Vinyl chloride	ND	0.020								
Surr: 1,2-Dichloroethane-d4	0.54		0.5000		108	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.7	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.49		0.5000		97.9	70	130			

Sample ID **lcs-31106**	SampType: **LCS**	TestCode: **EPA Method 8260B: TCLP Compounds**
Client ID: **LCSS**	Batch ID: **31106**	RunNo: **41936**
Prep Date: **4/5/2017**	Analysis Date: **4/6/2017**	SeqNo: **1317262** Units: **ppm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	110	70	130			
Chlorobenzene	0.95	0.050	1.000	0	95.4	70	130			
1,1-Dichloroethene	1.1	0.050	1.000	0	114	72	146			
Trichloroethene (TCE)	1.0	0.050	1.000	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	0.54		0.5000		109	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		87.0	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		103	70	130			
Surr: Toluene-d8	0.49		0.5000		99.0	70	130			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **mb-31121**	SampType: **MBLK**	TestCode: **Volatiles by 8260B/1311**
Client ID: **PBS**	Batch ID: **31121**	RunNo: **41984**
Prep Date: **4/6/2017**	Analysis Date: **4/7/2017**	SeqNo: **1318365** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.50								
2-Butanone	ND	200								
Carbon Tetrachloride	ND	0.50								
Chlorobenzene	ND	100								
Chloroform	ND	6.0								
1,4-Dichlorobenzene	ND	7.5								
1,2-Dichloroethane (EDC)	ND	0.50								
1,1-Dichloroethene	ND	0.70								
Hexachlorobutadiene	ND	0.50								
Tetrachloroethene (PCE)	ND	0.70								
Trichloroethene (TCE)	ND	0.50								
Vinyl chloride	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.18		0.2000		89.1	70	130			
Surr: 4-Bromofluorobenzene	0.22		0.2000		110	70	130			
Surr: Dibromofluoromethane	0.20		0.2000		101	70	130			
Surr: Toluene-d8	0.20		0.2000		98.9	70	130			

Sample ID **lcs-31121**	SampType: **LCS**	TestCode: **Volatiles by 8260B/1311**
Client ID: **LCSS**	Batch ID: **31121**	RunNo: **41984**
Prep Date: **4/6/2017**	Analysis Date: **4/7/2017**	SeqNo: **1318366** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.42	0.10	0.4000	0	105	70	130			
Chlorobenzene	0.38	0.10	0.4000	0	95.1	70	130			
1,1-Dichloroethene	0.37	0.10	0.4000	0	91.5	67.2	131			
Trichloroethene (TCE)	0.36	0.10	0.4000	0	89.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.18		0.2000		88.7	70	130			
Surr: 4-Bromofluorobenzene	0.22		0.2000		111	70	130			
Surr: Dibromofluoromethane	0.20		0.2000		98.9	70	130			
Surr: Toluene-d8	0.19		0.2000		96.3	70	130			

Sample ID **1704176-001ams**	SampType: **MS**	TestCode: **Volatiles by 8260B/1311**
Client ID: **Sample Location #1**	Batch ID: **31121**	RunNo: **41984**
Prep Date: **4/6/2017**	Analysis Date: **4/7/2017**	SeqNo: **1318368** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.10	0.4000	0.6401	103	70	130			
Chlorobenzene	0.37	0.10	0.4000	0	93.7	70	130			
1,1-Dichloroethene	0.35	0.10	0.4000	0	88.2	70	130			
Trichloroethene (TCE)	0.35	0.10	0.4000	0	88.4	70	130			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **1704176-001ams** SampType: **MS** TestCode: **Volatiles by 8260B/1311**

Client ID: **Sample Location #1** Batch ID: **31121** RunNo: **41984**

Prep Date: **4/6/2017** Analysis Date: **4/7/2017** SeqNo: **1318368** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.19		0.2000		92.9	70	130			
Surr: 4-Bromofluorobenzene	0.22		0.2000		108	70	130			
Surr: Dibromofluoromethane	0.20		0.2000		99.8	70	130			
Surr: Toluene-d8	0.18		0.2000		91.9	70	130			

Sample ID **1704176-001amsd** SampType: **MSD** TestCode: **Volatiles by 8260B/1311**

Client ID: **Sample Location #1** Batch ID: **31121** RunNo: **41984**

Prep Date: **4/6/2017** Analysis Date: **4/7/2017** SeqNo: **1318369** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.10	0.4000	0.6401	99.7	70	130	1.07	20	
Chlorobenzene	0.37	0.10	0.4000	0	91.7	70	130	2.16	20	
1,1-Dichloroethene	0.35	0.10	0.4000	0	88.0	70	130	0.316	20	
Trichloroethene (TCE)	0.36	0.10	0.4000	0	90.5	70	130	2.35	20	
Surr: 1,2-Dichloroethane-d4	0.19		0.2000		95.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.22		0.2000		112	70	130	0	0	
Surr: Dibromofluoromethane	0.20		0.2000		102	70	130	0	0	
Surr: Toluene-d8	0.19		0.2000		95.6	70	130	0	0	

Sample ID **lcs-31139** SampType: **LCS** TestCode: **Volatiles by 8260B/1311**

Client ID: **LCSS** Batch ID: **31139** RunNo: **42005**

Prep Date: **4/7/2017** Analysis Date: **4/10/2017** SeqNo: **1319276** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.43	0.30	0.4000	0	109	70	130			
Chlorobenzene	0.40	0.30	0.4000	0	100	70	130			
1,1-Dichloroethene	0.47	0.30	0.4000	0	116	67.2	131			
Trichloroethene (TCE)	0.43	0.30	0.4000	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	0.17		0.2000		83.6	70	130			
Surr: 4-Bromofluorobenzene	0.21		0.2000		103	70	130			
Surr: Dibromofluoromethane	0.21		0.2000		104	70	130			
Surr: Toluene-d8	0.18		0.2000		92.3	70	130			

Sample ID **mb-31139** SampType: **MBLK** TestCode: **Volatiles by 8260B/1311**

Client ID: **PBS** Batch ID: **31139** RunNo: **42005**

Prep Date: **4/7/2017** Analysis Date: **4/10/2017** SeqNo: **1319277** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.50								
2-Butanone	ND	200								

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **mb-31139**	SampType: **MBLK**	TestCode: **Volatiles by 8260B/1311**
Client ID: **PBS**	Batch ID: **31139**	RunNo: **42005**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1319277** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Carbon Tetrachloride	ND	0.50								
Chlorobenzene	ND	100								
Chloroform	ND	6.0								
1,4-Dichlorobenzene	ND	7.5								
1,2-Dichloroethane (EDC)	ND	0.50								
1,1-Dichloroethene	ND	0.70								
Hexachlorobutadiene	ND	0.50								
Tetrachloroethene (PCE)	ND	0.70								
Trichloroethene (TCE)	ND	0.50								
Vinyl chloride	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.17		0.2000		85.3	70	130			
Surr: 4-Bromofluorobenzene	0.20		0.2000		101	70	130			
Surr: Dibromofluoromethane	0.21		0.2000		105	70	130			
Surr: Toluene-d8	0.18		0.2000		92.0	70	130			

Sample ID **1704176-004ams**	SampType: **MS**	TestCode: **Volatiles by 8260B/1311**
Client ID: **Sample Location #4**	Batch ID: **31139**	RunNo: **42005**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1319294** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.4	0.30	0.3995	0.8792	119	70	130			
Chlorobenzene	0.43	0.30	0.3995	0	109	70	130			
1,1-Dichloroethene	0.49	0.30	0.3995	0	124	70	130			
Trichloroethene (TCE)	0.47	0.30	0.3995	0	118	70	130			
Surr: 1,2-Dichloroethane-d4	0.16		0.1998		81.9	70	130			
Surr: 4-Bromofluorobenzene	0.20		0.1998		101	70	130			
Surr: Dibromofluoromethane	0.20		0.1998		101	70	130			
Surr: Toluene-d8	0.19		0.1998		94.6	70	130			

Sample ID **1704176-004amsd**	SampType: **MSD**	TestCode: **Volatiles by 8260B/1311**
Client ID: **Sample Location #4**	Batch ID: **31139**	RunNo: **42005**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1319295** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.3	0.30	0.3995	0.8792	113	70	130	1.98	20	
Chlorobenzene	0.43	0.30	0.3995	0	106	70	130	2.16	20	
1,1-Dichloroethene	0.48	0.30	0.3995	0	121	70	130	1.98	20	
Trichloroethene (TCE)	0.46	0.30	0.3995	0	115	70	130	2.33	20	
Surr: 1,2-Dichloroethane-d4	0.17		0.1998		83.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.21		0.1998		105	70	130	0	0	

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**
21-Apr-17

Client: Western Refining Southwest, Gallup
Project: Naptha Line Spill

Sample ID **1704176-004amsd** SampType: **MSD** TestCode: **Volatiles by 8260B/1311**
Client ID: **Sample Location #4** Batch ID: **31139** RunNo: **42005**
Prep Date: **4/7/2017** Analysis Date: **4/10/2017** SeqNo: **1319295** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.20		0.1998		101	70	130	0	0	
Surr: Toluene-d8	0.19		0.1998		94.7	70	130	0	0	

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **MB-31138**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBS**	Batch ID: **31138**	RunNo: **41983**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1318361** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.25								
1-Methylnaphthalene	ND	0.25								
2-Methylnaphthalene	ND	0.25								
Acenaphthylene	ND	0.25								
Acenaphthene	ND	0.25								
Fluorene	ND	0.030								
Phenanthrene	0.0012	0.015								J
Anthracene	ND	0.015								
Fluoranthene	ND	0.020								
Pyrene	ND	0.025								
Benz(a)anthracene	ND	0.010								
Chrysene	ND	0.010								
Benzo(b)fluoranthene	ND	0.010								
Benzo(k)fluoranthene	ND	0.010								
Benzo(a)pyrene	0.00050	0.010								J
Dibenz(a,h)anthracene	ND	0.010								
Benzo(g,h,i)perylene	0.00050	0.010								J
Indeno(1,2,3-cd)pyrene	ND	0.010								
Surr: Benzo(e)pyrene	0.29		0.5000		58.0	32.4	163			

Sample ID **LCS-31138**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSS**	Batch ID: **31138**	RunNo: **41983**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1318362** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	1.2	0.25	2.000	0	60.9	38.1	121			
1-Methylnaphthalene	1.3	0.25	2.000	0	65.7	39.8	121			
2-Methylnaphthalene	1.3	0.25	2.000	0	63.5	38.6	119			
Acenaphthylene	1.3	0.25	2.000	0	63.5	56.9	119			
Acenaphthene	1.3	0.25	2.000	0	63.3	39.1	121			
Fluorene	0.12	0.030	0.2000	0	61.3	35.8	116			
Phenanthrene	0.065	0.015	0.1006	0	64.4	34.3	126			
Anthracene	0.054	0.015	0.1006	0	54.2	31.2	117			
Fluoranthene	0.13	0.020	0.2006	0	64.6	31.2	136			
Pyrene	0.14	0.025	0.2000	0	71.8	40.8	128			
Benz(a)anthracene	0.014	0.010	0.02000	0	68.8	25.7	136			
Chrysene	0.062	0.010	0.1006	0	61.9	34.2	129			
Benzo(b)fluoranthene	0.016	0.010	0.02500	0	63.0	33.2	121			
Benzo(k)fluoranthene	0.0090	0.010	0.01250	0	72.0	35.7	130			J

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **LCS-31138**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSS**	Batch ID: **31138**	RunNo: **41983**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1318362** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.0082	0.010	0.01250	0	66.0	27	131			J
Dibenz(a,h)anthracene	0.016	0.010	0.02500	0	65.0	29.4	131			
Benzo(g,h,i)perylene	0.018	0.010	0.02500	0	73.0	32.9	130			
Indeno(1,2,3-cd)pyrene	0.028	0.010	0.05002	0	56.5	28.2	135			
Surr: Benzo(e)pyrene	0.36		0.5000		71.6	32.4	163			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID	**MB-31159**	SampType:	**MBLK**	TestCode:	**MERCURY, TCLP**					
Client ID:	**PBW**	Batch ID:	**31159**	RunNo:	**42003**					
Prep Date:	**4/10/2017**	Analysis Date:	**4/10/2017**	SeqNo:	**1319243**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020								

Sample ID	**LCS-31159**	SampType:	**LCS**	TestCode:	**MERCURY, TCLP**					
Client ID:	**LCSW**	Batch ID:	**31159**	RunNo:	**42003**					
Prep Date:	**4/10/2017**	Analysis Date:	**4/10/2017**	SeqNo:	**1319244**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.020	0.005000	0	100	80	120			J

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **MB-31140**	SampType: **MBLK**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **PBW**	Batch ID: **31140**	RunNo: **41992**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1318852** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0								
Barium	ND	100								
Cadmium	ND	1.0								
Chromium	ND	5.0								
Lead	ND	5.0								
Selenium	ND	1.0								
Silver	ND	5.0								

Sample ID **LCS-31140**	SampType: **LCS**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **LCSW**	Batch ID: **31140**	RunNo: **41992**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1318853** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.52	5.0	0.5000	0	104	80	120			J
Barium	0.48	100	0.5000	0	97.0	80	120			J
Cadmium	0.51	1.0	0.5000	0	101	80	120			J
Chromium	0.49	5.0	0.5000	0	98.0	80	120			J
Lead	0.47	5.0	0.5000	0	94.3	80	120			J
Selenium	0.50	1.0	0.5000	0	100	80	120			J
Silver	0.10	5.0	0.1000	0	104	80	120			J

Sample ID **1704176-001AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **Sample Location #1**	Batch ID: **31140**	RunNo: **41992**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1318856** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.53	5.0	0.5000	0	105	75	125			J
Barium	3.5	100	0.5000	3.095	83.8	75	125			J
Cadmium	0.50	1.0	0.5000	0	100	75	125			J
Chromium	0.47	5.0	0.5000	0	93.8	75	125			J
Lead	0.45	5.0	0.5000	0	90.4	75	125			J
Selenium	0.46	1.0	0.5000	0	92.6	75	125			J
Silver	0.10	5.0	0.1000	0	102	75	125			J

Sample ID **1704176-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **Sample Location #1**	Batch ID: **31140**	RunNo: **41992**
Prep Date: **4/7/2017**	Analysis Date: **4/10/2017**	SeqNo: **1318857** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.54	5.0	0.5000	0	108	75	125	3.04	20	J

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1704176**

21-Apr-17

Client: Western Refining Southwest, Gallup

Project: Naptha Line Spill

Sample ID **1704176-001AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: TCLP Metals**

Client ID: **Sample Location #1** Batch ID: **31140** RunNo: **41992**

Prep Date: **4/7/2017** Analysis Date: **4/10/2017** SeqNo: **1318857** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	3.6	100	0.5000	3.095	107	75	125	3.31	20	J
Cadmium	0.51	1.0	0.5000	0	103	75	125	2.26	20	J
Chromium	0.48	5.0	0.5000	0	95.6	75	125	1.92	20	J
Lead	0.46	5.0	0.5000	0	92.5	75	125	2.20	20	J
Selenium	0.48	1.0	0.5000	0	96.1	75	125	3.72	20	J
Silver	0.10	5.0	0.1000	0	105	75	125	3.19	20	J

Sample ID **1704176-001AMS** SampType: **MS** TestCode: **EPA Method 6010B: TCLP Metals**

Client ID: **Sample Location #1** Batch ID: **31140** RunNo: **41992**

Prep Date: **4/7/2017** Analysis Date: **4/10/2017** SeqNo: **1318866** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.56	10	0.5000	0	111	75	125			J
Barium	3.7	200	0.5000	3.326	74.3	75	125			JS
Cadmium	0.52	2.0	0.5000	0	104	75	125			J
Chromium	0.49	10	0.5000	0	98.1	75	125			J
Lead	0.48	10	0.5000	0	96.8	75	125			J
Selenium	0.45	2.0	0.5000	0	90.2	75	125			J
Silver	0.10	10	0.1000	0	102	75	125			J

Sample ID **1704176-001AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: TCLP Metals**

Client ID: **Sample Location #1** Batch ID: **31140** RunNo: **41992**

Prep Date: **4/7/2017** Analysis Date: **4/10/2017** SeqNo: **1318867** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.58	10	0.5000	0	116	75	125	4.17	20	J
Barium	3.9	200	0.5000	3.326	112	75	125	4.99	20	J
Cadmium	0.54	2.0	0.5000	0	108	75	125	4.36	20	J
Chromium	0.51	10	0.5000	0	102	75	125	4.30	20	J
Lead	0.51	10	0.5000	0	101	75	125	4.49	20	J
Selenium	0.48	2.0	0.5000	0	96.6	75	125	6.86	20	J
Silver	0.11	10	0.1000	0	106	75	125	4.03	20	J

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
R	RPD outside accepted recovery limits	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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1704176** RcptNo: **1**

Received By: **Ashley Gallegos** **4/5/2017 2:18:00 PM**

Completed By: **Ashley Gallegos** **4/5/2017 3:05:18 PM**

Reviewed By: AJ 04/05/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? _____
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.9	Good	Not Present			

Chain-of-Custody Record

Client: Western - Refining

Gallup Refinery

Mailing Address: 92 GIANT CROSSING ROAD

Gallup NM 87301

Phone #: 505 722 3833

email or Fax#: 505 863 0930

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
☐ Other ______
☐ EDD (Type) ______

Turn-Around Time:
☐ Standard ☐ Rush ______ (marked X)

Project Name: Naptha Line Spill

Project #:

Project Manager: William Bailey

AD /JV

Sampler:
On Ice: ☒ Yes ☐ No
Sample Temperature: 3.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

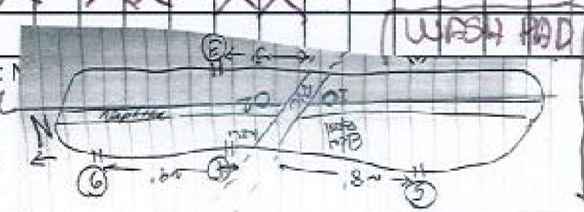
Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1704176	R8015 D (DRO/GRO/MRO)CI		8260B - TCLP	8270 - TCLP	RCRA 8 METALS - TCLP	RCI	PAINT FILTER	8310 PAH	SULFATES			Add 8260 Full List to -4 of 4/4/17 per ...			Air Bubbles (Y or N)
3/30/2017	11:30	Soil	Sample Location # 1	2 - 9oz	None	-001	X		X		X	X		X	X						
3/30/2017	11:35	Soil	Sample Location # 2	2 - 9oz	None	-002	X		X		X	X		X	X						
3/30/2017	11:40	Soil	Sample Location # 3	2 - 9oz	None	-003	X		X		X	X		X	X						
3/30/2017	11:45	Soil	Sample Location # 4	2 - 9oz	None	-004	X		X		X	X		X	X						
3/30/2017	11:50	Soil	Sample Location # 5	2 - 9oz	None	-005	X		X		X	X		X	X						
3-30-17	11:55	Soil	Sample location #6	2-9oz	None	-006	X		X		X	X		X	X						

Date: 02-10-17	Time: 11:00	Relinquished by: Alvin Dorsey	Received by:	Date 04/05/17	Time 1415
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: T101/102

(101) (102)



If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

ATTACHMENT B

0012

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NMD000333211	1	888-444-7077	010637254 GBF

GENERATOR

5. Generator's Name and Mailing Address
Western Refining Company - Gallup Refinery
I-40 @ Exit 39
Jamestown, NM 87347
Attn ATTN: Janelle Vestal
Generator's Phone: 505 863-1749

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: CHEMICAL TRANSPORTATION, INC.
U.S. EPA ID Number: AZT000610003

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
US Ecology Texas
3277 County Road 69
Robstown, TX 78380
Facility's Phone: 800 242-9208
U.S. EPA ID Number: TXD069452340

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. NA3077, Hazardous waste, solid, n.o.s. (Benzene, Xylene), 9, PGIII	001	CM	00010	T	D018		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
PROFILE# 09010359-0, TX Waste Code OUT3301H, ERG#171

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: ALVIN Dorsey
Signature
Month 06 Day 28 Year 17

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name
Signature
Month 6 Day 28 Year 17

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

042

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NMD000333211	1	888-444-7077	002637255 GBF

5. Generator's Name and Mailing Address — Alt ATTN: Janelle Yeats

Western Refining Company - Gallup Refinery
I-40 @ Exit 39
Jamestown, NM 87347

Generator's Phone: [illegible]

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: CHEMICAL TRANSPORTATION, INC. — U.S. EPA ID Number: AZT050010008

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number: TXD069452340

US Ecology Texas
3277 County Road 69
Robstown, TX 78380

Facility's Phone: 800 242-3209

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. NA3077, Hazardous waste, solid, n.o.s. (Benzene, Xylene), 9, PGIII	001	CM	00018	T	D018
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

PROFILE# 090101359-0, TX Waste Code OUT3301H, ERG#171

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: ALVIN DORSEY — Signature: [signature] — Month 06 Day 29 Year 17

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: [illegible] — Signature: [signature] — Month 6 Day 29 Year 17

Transporter 2 Printed/Typed Name — Signature — Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

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

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: Western Refining	Contact: Cheryl Johnson
Address: I-40 Exit 39, Jamestown, NM 87347	Telephone No: 505 722 0231
Facility Name: Gallup Refinery	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
	28	15N	15W					McKinley

Latitude 35◦29'28.56"N Longitude 108◦25'24.24"W NAD83

NATURE OF RELEASE

Type of Release: Gasoline spill (89 Octane)	Volume of Release: Estimated at 8900 gallons of gasoline	Volume Recovered: 89,000 gallons of gasoline recovered via vacuum truck.
Source of Release: Valve left open to sewer	Date and Hour of Occurrence: 05/07/17 @ 0800 hours	Date and Hour of Discovery: 05/07/17 @ 0800 hours
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? C Chavez/OCD; K VanHorn/NMED-HWB; B Powell/OCD; C Smith/NMED	
By Whom? Cheryl Johnson	Date and Hour: 05/07/17 @ 1145 hrs	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.* At 0800 hours, operator noticed gasoline pooling underneath the pipe rack located on the west side of the rail car loading area. Operator observed that gasoline had pooled in and around the pipe rack area and was flowing into the sewer box located near the railcar loading area. Offsites supervisor, Kurtz and Environmental were immediately notified. Maintenance was also contacted to begin vacuuming out sewer box. When level in sewer box was lowered it was observed that a ¾" valve going into a sewer cup was draining (valve was in the open position). Valve(s) were immediately closed at the gasoline additive tank. The sewer cup overflowed onto a concrete pad underneath the pipe rack and into a sewer drain. Temperature 45°F, calm, partly cloudy. No personnel injuries were reported and no fires occurred from this incident.

Describe Area Affected and Cleanup Action Taken.* The overflow was contained inside a concrete berm underneath the pipe rack which then flowed in a south, south-easterly direction towards a sewer drain (Figure 1, #2). The overflow was pumped out using a vacuum truck and approximately three loads was collected from this area as well as from the sump box located on the north side of the pipe rack (Figure 1. #3). A sample of the product was collected and analyzed in our Gallup Facility Laboratory to verify product. An estimated 8900 gallons of gasoline was picked up via vacuum truck and placed back into the process at the slop tank. Clean-up activities were not immediately initiated as the majority of the spill was contained inside a concrete pad.

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: Cheryl Johnson	Approved by Environmental Specialist:	
Title: Environmental Specialist	Approval Date:	Expiration Date:
E-mail Address: Cheryl.A.johnson@Andeavor.com	Conditions of Approval:	Attached ☐
Date: 8/30/2017 Phone:505-722-0231		

* Attach Additional Sheets If Necessary

FIGURE 1


T-563
T-562
Rail Rack Sump
N
Additive Tank - Source of Leak
Rail Car Loading Area
Area of Spill
Sewer Box
T-581
T-582
Google earth
Imagery Date: 3/18/2015 1997
35°29'28.68" N 108°25'23.40" W elev 6942 ft
Eye alt 7888 ft

Chavez, Carl J, EMNRD

From: Johnson, Cheryl A <Cheryl.A.Johnson@andeavor.com>
Sent: Thursday, August 3, 2017 9:51 AM
To: Chavez, Carl J, EMNRD; VanHorn, Kristen, NMENV
Cc: Powell, Brandon, EMNRD; Hains, Allen; 'Bailey, William'
Subject: Release Notification (C-141) - Gallup Refinery
Attachments: LTR, C-141 SIGNED.Pdf

Carl, Kristen:

Attached is form C-141 initial report for the T-35 overflow which occurred on Sunday, July 30, 2017. If you have any questions, please contact me or Bill Bailey, Environmental Supervisor.

Thank you, cj

Cheryl Johnson
Environmental Specialist

As part of Tesoro and Western Refining's transistion to Andeavor on August 1, please be aware that my e-mail address will change to Cheryl.A.Johnson@andeavor.com beginning on Monday, July 31, 2017. Note that I will continue to receive e-mails sent to cheryl.johnson@western.com for a period of time to ensure that I do not miss any messages from you.

Andeavor - Gallup Refinery
92 Giant Crossing Road
Gallup, NM 87301
505 722 0231 Direct
505 863-0930 Fax
505 722 3833 Main
Cheryl.A.Johnson@andeavor.com – Effective July 31, 2017
cheryl.johnson@wnr.com

Western Refining
GALLUP

WNR LISTED NYSE

August 3, 2017

Mr. Carl Chavez, CHMM
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Release Notification and Corrective Action Form C-141 for Tank 35 overflow – Western - Gallup Refinery, McKinley County, New Mexico.

Dear Mr. Chavez:

Enclosed is form C-141 prepared by Western for the Tank 35 overflow to ground surface which occurred on July 30, 2017 at the Gallup Refinery, I-40 Exit 39, Jamestown, NM (McKinley County). This report has also been submitted electronically (via e-mail) to all parties listed below.

If you have any questions, please do not hesitate to contact me or Mr. Bill Bailey – Environmental Supervisor at (505) 726-9743.

Sincerely,

Cheryl Johnson
Environmental Specialist
Attachment
cc: Brandon Powell, NM-OCD-Aztec
Kristen VanHorn, NM-HWB
Bill Bailey, WNR - GLP
Allen Haines, WNR-El Paso

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

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: Western Refining	Contact: Cheryl Johnson
Address: I-40 Exit 39, Jamestown, NM 87347	Telephone No: 505 722 0231
Facility Name: Gallup Refinery	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
	28	**15N**	**15W**					**McKinley**

Latitude 35°29'.84"N Longitude 108°25'56.17"W NAD83

NATURE OF RELEASE

Type of Release: Oily Water Mixture w/hydrocarbons(Waste water)	Volume of Release: Estimated at 542 bbls of oily/water mixture	Volume Recovered: To date 18,000 gallons of oily/water mix recovered via vacuum truck – on going.
Source of Release: Tank 35	Date and Hour of Occurrence: 7/30/17 @ 0130 hours	Date and Hour of Discovery: 7/30/17 @ 0130 hours
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? C Chavez/OCD; K VanHorn/NMED-HWB; B Powell/OCD; C Smith/NMED	
By Whom? Alvin Dorsey	Date and Hour: 7/30/17 @ 0435 hrs	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*
Facility received heavy rains on 7/29/17 through 7/30/17 and also had a fire water line leak in the process area (Amine Unit). Running max flow of 260GPM, the Waste Water Treatment Plant was not able to keep up with the volume of water going to Tank 35 from the rainstorm and the fire water leak. Operator had switched rundown tanks to try to keep up with the influx of water filling up all the storage tanks (Tank 27, Tank 28 and Tank 35). At approximately 0130 hours Tank 35 overfilled through the vents at the top of the tank and flowed onto the ground surface pooling inside an earthen berm; the overflow stopped at 0245 hours. Operator closed the rundown line to Tank 35 to slow down the flow so the WWTP could process the excess flow and lower the level on Tank 35. On-site Kurtz Fire Department was notified and responded by applying a foam layer on the spill site to minimize vapor and fire hazards. Wind direction north at about 8 mph with a temperature of 70 degrees. No personnel injuries were reported and no fires occurred.

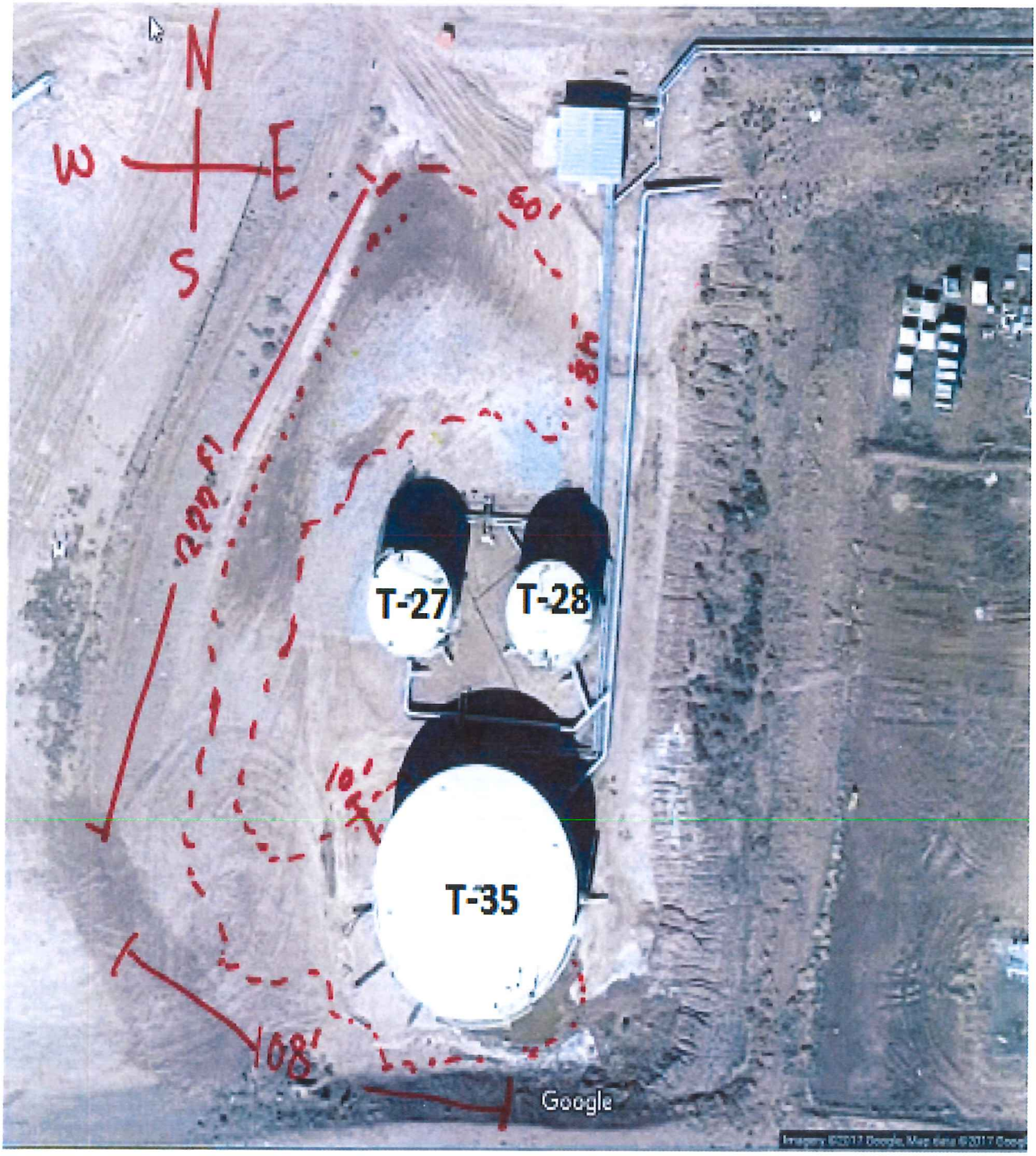
Describe Area Affected and Cleanup Action Taken.*
The overflow was contained inside an earthen berm (227ft x 60ft) with major pooling on the north section of the berm (see Attachment 1). A thin oily layer with a sheen was observed on the surface of the water. Clean up activities were not immediately initiated due to severe weather (lightning) and muddy conditions on 7/30/17 and 7/31/17. Clean up activities began on 8/1/17 with vacuuming of the oily/water mixture from within the berm. To date 8/3/17, an estimated 18,000 gals of oily/water mix has been vacuumed up from the area. Clean up operations continue.

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: Cheryl Johnson	Approved by Environmental Specialist:
Title: Environmental Specialist	Approval Date: / Expiration Date:
E-mail Address: Cheryl.a.johnson@wnr.com	Conditions of Approval: / Attached ☐
Date: Phone:	

* Attach Additional Sheets If Necessary

ATTACHMENT 1



Chavez, Carl J, EMNRD

From: Vestal, Janelle <Janelle.Vestal@wnr.com>
Sent: Thursday, April 27, 2017 5:51 PM
To: Chavez, Carl J, EMNRD
Cc: VanHorn, Kristen, NMENV; Bailey, William; Pruner, Dave
Subject: RE: Release Notification Sodium Hydroxide
Attachments: 170427 C-141initial.pdf; Caustic spill.JPG; SDS CAUSTIC_SODA_25_30.pdf

Good Afternoon Carl,
Attached please find our initial C-141 Report for the Sodium Hydroxide leak/spill we had at Western Refining – Gallup on 4/20/2017. Also attached is a picture of the location and extent of the spill, and the SDS for the Sodium Hydroxide we have on site.

Thank you for your attention to this matter,

Janelle Vestal
Environmental Engineer

Western Refining Southwest Inc.
Gallup Refinery
505-726-9721
Cell 505-285-8193
janelle.vestal@wnr.com

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Friday, April 21, 2017 12:47 PM
To: Vestal, Janelle <Janelle.Vestal@wnr.com>
Cc: VanHorn, Kristen, NMENV <Kristen.VanHorn@state.nm.us>
Subject: Release Notification Sodium Hydroxide

Janelle:

My contact info. 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

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

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	Western Refining	Contact	William Bailey
Address	92 Giant Crossing Road, Gallup, NM 87301	Telephone No.	505-726-9743
Facility Name	Western Refining, Gallup Refinery	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
	28	15N	15W					McKinley

Latitude 35° 29' 26" **Longitude** 108° 25' 45" NAD83

NATURE OF RELEASE

Type of Release: Sodium Hydroxide Leak	Volume of Release: 80 bbls	Volume Recovered: 30 gal
Source of Release: API Caustic Pump Hose from Flare KOD Tank	Date and Hour of Occurrence: 04/20/2017 2100 hrs	Date and Hour of Discovery: 04/20/2017 2130 hrs
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? NRC/ NM OCD (C. Chavez) / NMED HWB (K. VanHorn - msg)	
By Whom? Janelle Vestal	Date and Hour: 04/21/2014 1150 hrs / 1230 hrs / 1247 hrs	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

At 2130 hr on 4/20/2017, during regular rounds, operator noticed the hose to the sandpiper pump had ruptured. Caustic (20-30% sodium hydroxide - SDS attached) was spraying out of the hole. Previous round of the area at approximately 1900 hr on 4/20/2017 had shown no problem with this pump hose. The operator who found the leak donned the proper PPE, turned off the sandpiper, and blocked it in. The shift foreman, refinery manager, and Environmental Department were notified of the incident. Maintenance pumped approximately 20-30 gallons of caustic into a vacuum truck. Initial estimates of the leak were less than 4 bbls. Maintenance also sprayed water on surrounding equipment in an attemp to clean off the caustic. Pumping of the caustic was switched to the east caustic pump. The area was taped off with barricade tape to limit access. After further investigation the following morning, it was apparent that the leak was larger than first thought.

Based on the initial mass balance calculations on the KOD tank where the caustic came from, estimates of the leak volume are approximately 80 bbls.

Describe Area Affected and Cleanup Action Taken.*

The caustic and cleaning water was somewhat confined to the caustic pump containment. A volume spilled over a retaining wall to a bermed area North of the pump and KOD tank. A volume also sprayed surrounding equipment and out of the containments to surrounding ground. A cleanup action plan will be established.

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: William Bailey	OIL CONSERVATION DIVISION	
Printed Name: William Bailey	Approved by Environmental Specialist:	
Title: Environmental Supervisor	Approval Date:	Expiration Date:
E-mail Address: William.Bailey@wnr.com	Conditions of Approval:	Attached ☐
Date: 04/27/2014 Phone: 505-726-9743		

* Attach Additional Sheets If Necessary


Extent of spill
Flare KOD
API Sandpiper Pump

Material Safety Data Sheet
Sodium Hydroxide 20-30%

ACC# 88810

Section 1 - Chemical Product and Company Identification

MSDS Name: Sodium Hydroxide 20-30%
Catalog Numbers: M-090, M090, MCC-030345, NC9168938, NC9453737, NC9648407, NC9848909, NC9872309, XXCMS0204L, XXNAOH20%200LI, XXSODHY6N20L
Synonyms: Caustic Soda; Soda Lye; Sodium Hydrate.
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7732-18-5	Water	70-80	231-791-2
1310-73-2	Sodium hydroxide	20-30	215-185-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Clear liquid.
Danger! Corrosive. Causes eye and skin burns. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns.
Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye burns. May cause chemical conjunctivitis and corneal damage.
Skin: Causes skin burns. May cause deep, penetrating ulcers of the skin. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.
Ingestion: May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause systemic effects.
Inhalation: Irritation may lead to chemical pneumonitis and pulmonary edema. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. Causes chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema. May cause systemic effects.
Chronic: Prolonged or repeated skin contact may cause dermatitis. Effects may be delayed.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid immediately.
Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Use water with caution and in flooding amounts. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.
Extinguishing Media: Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 1

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use only in a well-ventilated area. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Discard contaminated shoes.
Storage: Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids. Keep away from metals. Keep away from flammable liquids. Keep away from organic halogens.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Water	none listed	none listed	none listed
Sodium hydroxide	2 mg/m3 Ceiling	10 mg/m3 IDLH	2 mg/m3 TWA

OSHA Vacated PELs: Water: No OSHA Vacated PELs are listed for this chemical. Sodium hydroxide: No OSHA

Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear chemical splash goggles and face shield.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: Clear
Odor: none reported
pH: Alkaline
Vapor Pressure: 14 mm Hg
Vapor Density: >1.0
Evaporation Rate: Not available.
Viscosity: >1 (ether=1)
Boiling Point: 212 deg F
Freezing/Melting Point:32 deg F
Decomposition Temperature: Not available.
Solubility: Completely soluble in water.
Specific Gravity/Density:1.0
Molecular Formula: NaOH
Molecular Weight: Not available.

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid: Extreme temperatures.
Incompatibilities with Other Materials: Metals, acids, flammable liquids, halogenated organics (e.g. dibromoethane, hexachlorobenzene, methyl chloride, trichloroethylene), aluminum, tin, zinc, nitromethane, nitro compounds.
Hazardous Decomposition Products: Toxic fumes of sodium oxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 7732-18-5: ZC0110000
CAS# 1310-73-2: WB4900000
LD50/LC50:
CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg;
.

CAS# 1310-73-2:
Draize test, rabbit, eye: 400 ug Mild;
Draize test, rabbit, eye: 1% Severe;
Draize test, rabbit, eye: 50 ug/24H Severe;
Draize test, rabbit, eye: 1 mg/24H Severe;
Draize test, rabbit, skin: 500 mg/24H Severe;
.

Carcinogenicity:
CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 1310-73-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	SODIUM HYDROXIDE SOLUTION	No information available.
Hazard Class:	8	
UN Number:	UN1824	
Packing Group:	II	

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 1310-73-2 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 1310-73-2: 1000 lb final RQ; 454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 1310-73-2: immediate, reactive.
Section 313 No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 1310-73-2 is listed as a Hazardous Substance under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 1310-73-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

C

Risk Phrases:

R 35 Causes severe burns.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37/39 Wear suitable gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 7732-18-5: No information available.
CAS# 1310-73-2: 1

Canada - DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 1310-73-2 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of E.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 1310-73-2 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 12/12/1997
Revision #6 Date: 10/05/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

Chavez, Carl J, EMNRD

From: VanHorn, Kristen, NMENV
Sent: Thursday, June 1, 2017 8:52 AM
To: Bailey, William
Cc: Hains, Allen (Allen.Hains@wnr.com); Chavez, Carl J, EMNRD; 'king.laurie@epa.gov'
Subject: Response Action Report ASO Caustic Release and FCC Feed Release
Attachments: Approval_RAR_Tank714_June2017.pdf; Disapproval_RAR_ASOCausticRelease.pdf

Please see the attached correspondence.

If you have any questions, please contact me.

Thank you,
Kristen

Kristen Van Horn
NMED Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building 1
Santa Fe, NM 87505
Phone: 505-476-6046
Email: *Kristen.VanHorn@state.nm.us*

State of New Mexico
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

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SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

BUTCH TONGATE
Cabinet Secretary
J. C. BORREGO
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

June 1, 2017

Mr. William Bailey
Environmental Supervisor
Western Refining Southwest Inc., Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

RE: APPROVAL
RESPONSE ACTION REPORT
TANK T-714 – FCC FEED RELEASE FEBRUARY 5, 2016
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
WRG-17-001

Dear Mr. Bailey:

The New Mexico Environment Department (NMED) is in receipt of Western Refining Southwest, Inc. Gallup Refinery's (Western) submittal *Response Action Report Tank T-714 – FCC Feed Release February 5, 2016* (Report) dated January 2017. The Permittee reported the release on February 7, 2016. The spill occurred within the berm around the Hot Oil/Asphalt Tank Farm (listed as AOC 18, in the pending Consent Order).

Comment 1
Three soil removal actions were conducted between February 2016 and August 2016, which resulted in the removal of approximately 1,600 tons of soil to approximately 36 inches below the ground surface. In Section 2.1.1 (Initial Remediation) the Permittee states, "[c]ontract personnel were called out to vacuum the liquids until further assessment could be determined. After an assessment of the spilled area, a contract company determined that in-situ solidification of the spilled area would be necessary using non-contaminated dirt. A contract company arrived on Monday, February 8th, and began the solidification process. The in-situ solidification process was not successful because the spilled material would not solidify in-situ but would move to

other areas." If the material was not adhering to the soil, it is unlikely the FCC feedstock permeated three feet into a silty clay within the bermed tank area. This is an indication that historical releases have impacted the Hot Oil/Asphalt Tank Farm. The Permittee removed soils around Tank 714; however, other historical releases likely still affect the area. This issue may be addressed through the investigation of AOC 18 in the pending Consent Order.

Comment 2
It does not appear that the Permittee collected sidewall samples from the final excavation. The excavation was filled with gravel prior to final confirmation sampling. In the future, when soil cleanup activities involve excavations deeper than one foot below the ground surface, the Permittee must collect excavation sidewall samples. Soils affected by releases may remain since the horizontal extent of contamination was not confirmed.

Comment 4
In Section 4 (Conclusions and Recommendations) the Permittee discusses arsenic and cyanide above the DAF 20 levels. Otherwise, the Permittee achieved Residential and Construction Worker Soil Screening Limits and achieved total petroleum hydrocarbon (TPH) levels below 1000 mg/kg regarding the vertical extent of contamination. NMED agrees that the arsenic concentration is potentially naturally occurring.

Comment 5
Appendix D (Field Methods) is written like a work plan in future tense rather than as a report documenting field activities and describing field methods used. The information describing field methods must describe what actually occurred in the field. The information provided in Appendix D is not useful. Section 2.2.1 (Soil Sampling) states "[a] copy of the field methods used to collect the soil samples is included as Appendix D." In the future, either describe the actual field activities conducted in soil sampling discussion or revise the information in Appendix D to reflect the soil sampling that was conducted.

Comment 6
The photographs presented in Appendix E are not labeled. In the future, if photographs are provided, provide descriptions of what is depicted and the cardinal directions where the photographs were taken.

If you have questions regarding this letter, please contact Kristen Van Horn at 505-476-4046.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: K. Van Horn, NMED HWB
C. Chavez, EMNRD OCD
A. Hains, WRG
L. King, EPA

File: Reading File 2017 and WRG-17-001

Chavez, Carl J, EMNRD

From: VanHorn, Kristen, NMENV
Sent: Thursday, June 1, 2017 8:52 AM
To: Bailey, William
Cc: Hains, Allen (Allen.Hains@wnr.com); Chavez, Carl J, EMNRD; 'king.laurie@epa.gov'
Subject: Response Action Report ASO Caustic Release and FCC Feed Release
Attachments: Approval_RAR_Tank714_June2017.pdf; Disapproval_RAR_ASOCausticRelease.pdf

Please see the attached correspondence.

If you have any questions, please contact me.

Thank you,
Kristen

Kristen Van Horn
NMED Hazardous Waste Bureau
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Santa Fe, NM 87505
Phone: 505-476-6046
Email: *Kristen.VanHorn@state.nm.us*

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Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

June 1, 2017

Mr. William Bailey
Environmental Supervisor
Western Refining Southwest Inc., Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

RE: DISAPPROVAL
RESPONSE ACTION REPORT
BAKER TANK – ASO CAUSTIC RELEASE APRIL 3, 2016
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
WRG-17-002

Dear Mr. Bailey:

The New Mexico Environment Department (NMED) is in receipt of Western Refining Southwest, Inc. Gallup Refinery's (Western) submittal *Response Action Report Baker Tank – ASO Caustic Release April 3, 2016* (Report), dated January 2017. NMED hereby issues this Disapproval with the following comments.

The Permittee reported the release on April 4, 2016 reporting that approximately 3 barrels (126 gallons) of spent caustic and acid soluble oil (ASO) overflowed from a Baker Tank onto the ground in the Portable Tank Storage Area just south of the Hot Oil/Asphalt Tank Farm (AOC 18, listed on the pending Consent Order).

Comment 1

For NMED to understand the use of the Portable Tank Storage Area, the Permittee must provide additional information regarding the area and the materials that are stored in the tanks:

a) In Section 1.2 (Discussion of the Release) the Permittee states, "[a]t 11:45 AM on April 3, 2016 a load of caustic material from the API knock out drum was off loaded into a Baker Tank that was storing ASO. A chemical reaction occurred due to the mixing of incompatible wastes. The Baker Tank overflowed causing approximately four barrels of the material to be spilled onto the ground. The spilled material flowed south to the East Gate Road and then westward along the road. A C-141 was not initiated for this release since the total volume was less than five barrels. Four personal H2S monitors were activated during the incident. The personnel left the area immediately. The area was immediately blocked off to traffic. The refinery fire department began monitoring the area with LEL/H2S monitors. Using supplied air, the spill response personnel vacuumed the spill material from the ground and from within the Baker Tank secondary containment. The environmental department was notified of the incident." Describe whether tanks holding incompatible wastes are stored next to each other or are separated; provide the separation distance. Describe how the tanks are labeled so that that operators can differentiate between the tank contents. In addition, provide the pH ranges for the ASO and spent caustic.

b) The Permittee does not specify whether the tanks in the Portable Tank Storage Area are used for materials that are being stored for use or for materials that are stored for disposal, the Permittee states in Section 1.4 (Discussion of Portable Tank Storage Area) that the tanks are used to store "oily water". It does not seem that ASO or spent caustic can be categorized as "oily water". NMED requested additional information by email on March 10, 2017 stating "Is the portable tank storage area used for storing materials that are going to be used or for materials that are going to be shipped off? Was the ASO in the baker tank used?" Western replied in an email dated March 14, 2017, "[t]he tanks normally store materials that are going to be shipped off. When ASO is produced, it is put into the baker tank, oil is removed and recycled onsite and the ASO is shipped off." NMED requires further information, including a material safety data sheet (MSDS) for the caustic that was mixed with the ASO, a description of the ASO, and if the Baker Tanks hold materials that are discarded.

Comment 2

In Section 1.4 (Discussion of the Portable Tank Storage Area) the Permittee states, "[t]he tanks are constructed of carbon steel and have a v-bottom or round bottom. The interiors of the tanks are coated with a chemical resistant coating. Fluids are transported to and from the tanks using vacuum trucks." The Permittee does not discuss secondary containment; however, photos included in the Report demonstrate that there are what appear to be flexible containment around the Baker Tanks in the Portable Storage Tank Area. Because the Permittee uses vacuum trucks to transfer liquids to and from the tanks, there is a high risk for small releases over time in the area. Appropriate secondary containment should be installed if the Permittee continues to use the area

for storage, so that spills and releases can be contained and kept from contacting the ground surface. In addition, if the material in the tanks is stored for disposal, the tanks are subject to RCRA Subpart J and must meet all requirements for construction and operation.

Comment 3
Appendix D (Field Methods) is written like a work plan in future tense. The information describing field methods must include what has been conducted in the field. The information provided in Appendix D is not useful. Section 2.2.1 (Soil Sampling) states "[a] copy of the field methods used to collect the soil samples is included as Appendix D." Either include descriptions of the actual field procedures performed in the field in Section 2.2.1 or revise Appendix D to reflect the soil sampling that was conducted.

Comment 4
The photographs presented in Appendix E are not labeled. Provide descriptions of what is depicted in the photographs and the cardinal directions the photographs are taken from (or an additional figure depicting the direction of the photographs).

Comment 5
The photographs in Appendix E show that the Baker Tanks are labeled "FLOAT" "K.O.D." "KCC CAUSTIC" "ASO". Provide a description of what materials are held in the tanks. For example, provide information regarding the source of "Float". See also Comment 1b.

Comment 6
NMED does not consider this area to be an AOC or a SWMU at this time. However, the Permittee must take measures to ensure that this storage area is properly contained and that small spills and releases are not occurring during the transfer of materials to and from the tanks. See also Comment 2.

The Permittee must address the comments above and provide additional information regarding the release in a revised Report. The revised Report must be submitted to NMED no later than **July 31, 2017.**

If you have questions regarding this letter, please contact Kristen Van Horn at 505-476-4046.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: K. Van Horn, NMED HWB
C. Chavez, EMNRD OCD
A. Hains, WRG
L. King, EPA

File: Reading File 2017 and WRG-17-002