SITE INFORMATION

Report Type: Closure Report (1RP-4280)

General Site Information:						
Site:	**Lusk-Belco Water Line**					
Company:	**EOG Resources**					
Section, Township and Range	**Unit P**	**Sec. 36**	**T 19S**	**R 32E**		
County:	**Lea County, NM**					
GPS:	**32.61124**			**-103.71108**		
Surface Owner:	**State of New Mexico**					

Release Data:	
Date Released:	4/28/2016
Type Release:	Produced Water
Source of Contamination:	Failure of a 3" poly line
Fluid Released:	Unknown
Fluids Recovered:	0

Official Communication:			
Name:	James Kennedy		Clair Gonzales
Company:	EOG Resources		Tetra Tech
Address:	5509 Champions Dr		901 West Wall Street
			Suite 100
City:	Midland, TX 79706		Midland, Texas 79701
Phone number:	432-686-7016		432-687-8634
Fax:			
Email:	James.Kennedy@eogresources.com		clair.gonzales@tetratech.com

Site Characterization	
Depth to Groundwater:	*50' below ground surface (bgs)*
Karst Potential:	*Low*

Recommended Remedial Action Levels (RRALs)			
Benzene	***Total BTEX***	***TPH (GRO+DRO+MRO)***	***Chlorides***
10 mg/kg	*50 mg/kg*	*100 mg/kg*	*600 mg/kg*

TETRA TECH

March 22, 2021

Bradford Billings
Hydrologist
District 2 Artesia
Oil Conservation Division
Santa Fe, NM 87505

Re: Closure Report
EOG Resources
Lusk-Belco Water Line
Unit P, Section 36, Township 19 South, Range 32 East
Lea County, New Mexico
1RP-4280

Mr. Billings:

Tetra Tech, Inc. (Tetra Tech) was contacted by EOG Resources (EOG) to assess a release at the EOG Lusk-Belco Water Line (API No. 30-025-31042). The release footprint is located in the Public Land Survey System (PLSS) Unit P, Section 36, Township 19 South, Range 32 East, Lea County, New Mexico (Site). The Site coordinates are 32.61124º, -103.71108º. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the release occurred on April 28, 2016 due to a failure of a 3-inches poly produced water line. The volume of the release was unknown. The area affected consisted of approximately 20 feet (ft.) by 5 ft. within the pipeline right of way. During immediate response actions, valves were closed on both ends of the line and a backhoe crew was called to repair the line and excavated the impacted soils. No free fluids were recovered. The initial C-141 report was submitted on May 12, 2016 and approved by the NMOCD on May 16, 2016. The release was subsequently assigned the Remediation Permit (RP) number 1RP-4280. The C-141 forms are included in Appendix A.

Site Characterization

A site characterization was performed for the site, and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances, and the site is in a low karst potential area. The nearest well is listed in the USGS National Water Information Database website in Section 18, approximately 3.22 miles North of the site, and has a reported depth to groundwater of 191.33 feet below ground surface. In addition, according to the New Mexico Office of the State Engineer, there are no water wells within 800 meters (½ miles) radius. Therefore, we will be using the most stringent RRALs criteria. Site characterization data is included in Appendix B.

Tetra Tech
901 West Wall Street, Suite 100, Midland, TX 79701
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

TETRA TECH

Regulatory

A risk-based evaluation was performed for the site per the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based on the site characterization, the proposed RRAL for TPH is 100 mg/kg (GRO+DRO+MRO). Additionally, based on the site characterization, the proposed RRAL for chlorides is 600 mg/kg.

Soil Assessment and Analytical Results

On December 7, 2016, EOG submitted a work plan to the NMOCD, which was approved on April 6, 2017. Based on the work plan, it is mentioned that initial delineation samples were taken on May 5, 2016, and additional sampling activities were performed on June 8, 2016. In order to sample delineate chloride concentrations further, a core rig was used to obtain samples on November 16, 2016. Within the work plan is included a figure with the sample locations. In the scope of work, it is mentioned that EOG will excavated four (4) feet (ft.) of impacted soil from the release area, disposed all excavated soil to NMOCD approved facility for disposal. After the remediation work, EOG will installed a 20-ml synthetic liner to prohibit percolation of moisture deeper into the subsurface, restricting further chloride migration deeper toward groundwater or rising back to the surface. EOG will also backfilled the excavated area with 2 ft. of caliche, followed by 2 ft. of topsoil to allow vegetative repopulation of the release site. EOG work plan is included in Appendix C along with figure and laboratory results.

On March 1, 2021, Tetra Tech personnel were on site to evaluate and collect samples at the release footprint to endure that the work plan submitted by EOG had been executed. The formerly impacted area was identified from the description in the C-141, the aerial imagery and the figure included in the EOG work plan. Soils were field screened for salinity using an Extech EC400 ExStik to determine sampling intervals. A total of one (1) auger hole (AH-1) was advanced to a total depth from surface to 4 ft. bgs. A total of four (4) samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix D. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3. Photographic documentation is included.

Referring to Table 1, none of the samples analyzed exceeded the Site RRAL for chloride (600 mg/kg), TPH (100 mg/kg), BTEX (50 m/kg) and benzene (10 mg/kg).

TETRA TECH

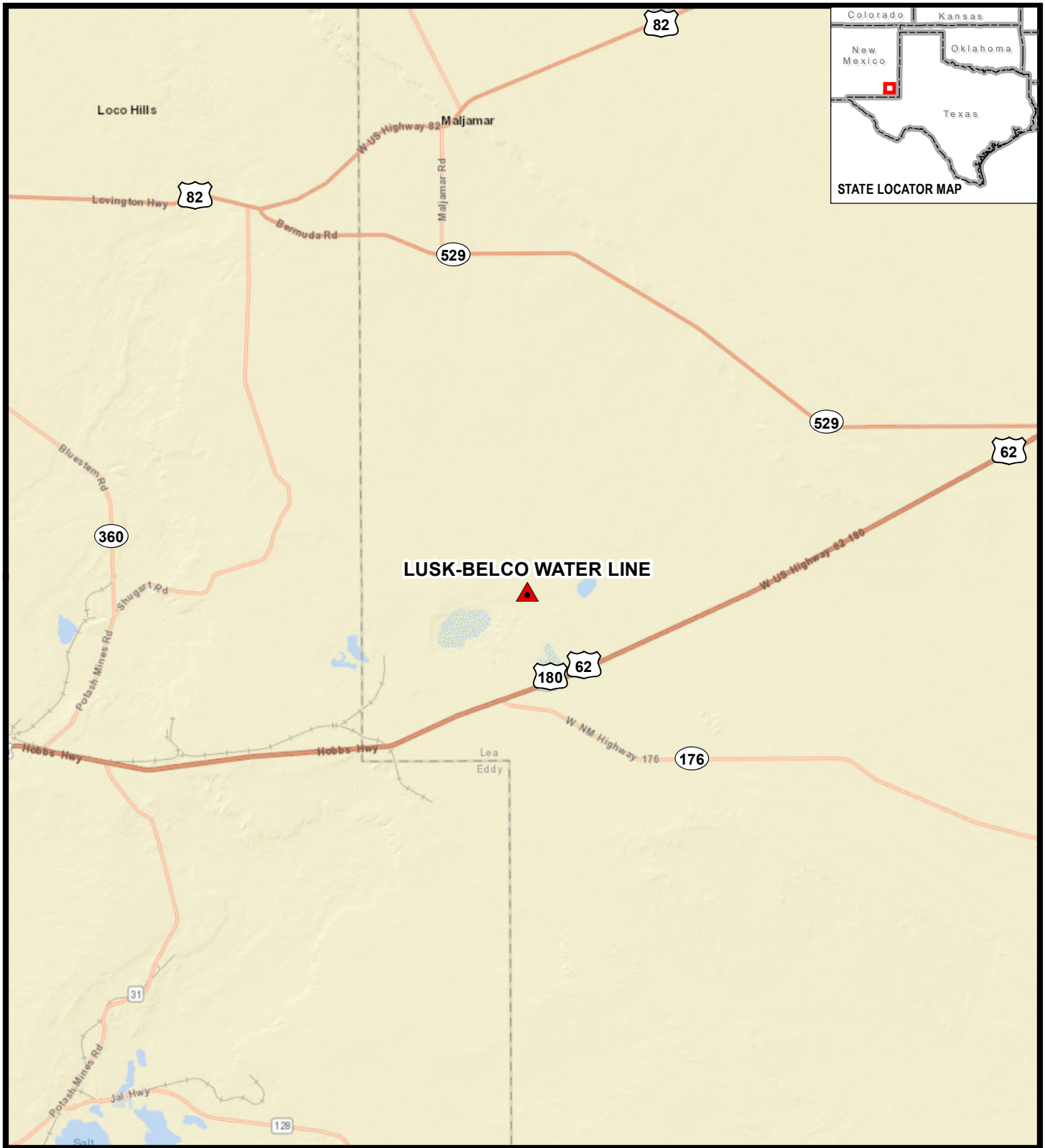
Conclusion

Based on the laboratory results and remediation activities performed, EOG requests closure of this spill issue. The final C-141 initial reports are enclosed in Appendix A. If you have any questions or comments concerning the assessment or remediation activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Paula Tocora Alonso
Paula Tocora Alonso
Environmental Engineer I
Tetra Tech, Inc

Figures



SITE LOCATION

N
W
E
S

0 2.5 5 Miles

Approximate Scale in Miles

Source: ESRI Basemap - Streets, 2021.

OVERVIEW MAP
LUSK-BELCO WATER LINE
Property Located at coordinates 32.61124°, -103.71108°
LEA COUNTY, NEW MEXICO

eog resources

Project #:
212C-MD-02419

FIGURE
1

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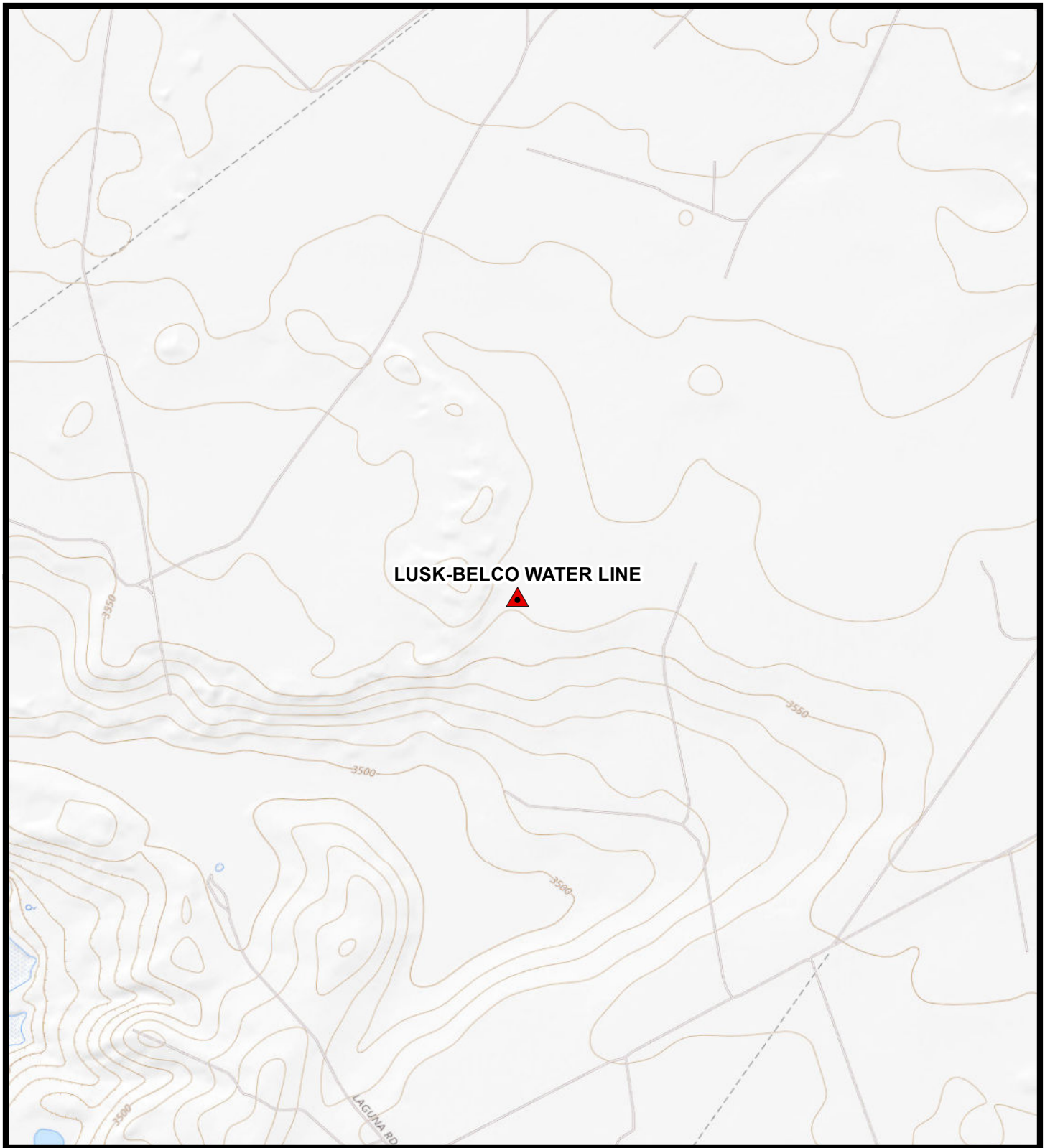


SITE LOCATION

N
W
E
S

0 1,000 2,000 Feet

Approximate Scale in Feet

Source: USGS, The National Map, Topo Base, 2021.

TOPOGRAPHIC MAP
LUSK-BELCO WATER LINE
Property Located at coordinates 32.61124°, -103.71108°
LEA COUNTY, NEW MEXICO

eog resources

Project #:
212C-MD-02419

FIGURE
2

C:\GIS\EOG Resources\212C-MD-02419_LuskBelcoWL\212C-MD-02419_LuskBelcoWL_FIG2.mxd 3/17/2021 joel.peters

AUGER HOLE SAMPLE LOCATIONS	LATITUDE	LONGITUDE
AH-1	32.611226°	-103.711079°

AUGER HOLE SAMPLE LOCATION

N
W
E
S

0 250 500 Feet

Approximate Scale in Feet

Source: ESRI Basemap - Imagery, 2019.

RELEASE ASSESSMENT MAP AND BORING LOCATIONS
LUSK-BELCO WATER LINE
Property Located at coordinates 32.61124°, -103.71108°
LEA COUNTY, NEW MEXICO

eog resources

Project #:
212C-MD-02419

FIGURE
3

C:\GIS\EOG Resources\212C-MD-02419_Lusk\Belco\WL\212C-MD-02419_LuskBelcoWL_FIG3.mxd 3/17/2021 joel.peters

Tables

Table 1
EOG
Lusk- Belko Water Line
Lea County, NM

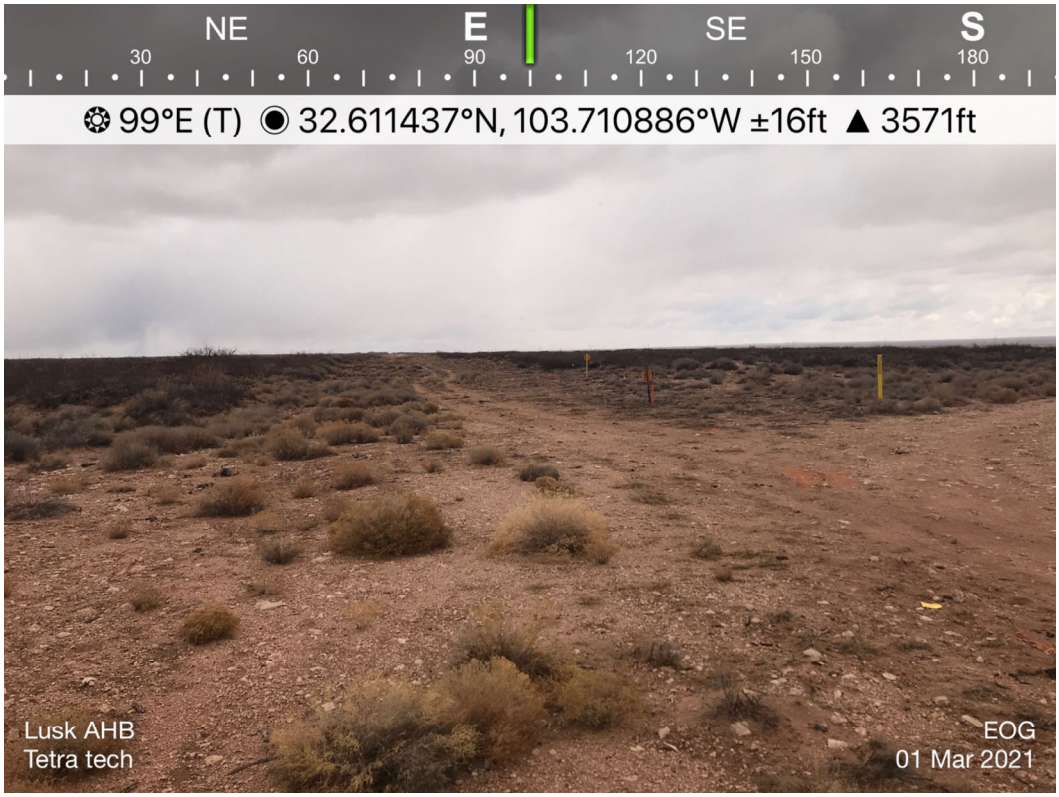
Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chlorides
			In-Situ	Removed (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	Total (mg/kg)						
AH-1	3/1/2021	0'-1'	X	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	7.51
	3/1/2021	1.5'-2'	X	-	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	6.98
	3/1/2021	2.5'-3'	X	-	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	6.89
	3/1/2021	3.5'-4'	X	-	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	6.48

(-) Not Analyzed
Exceeded RRALs

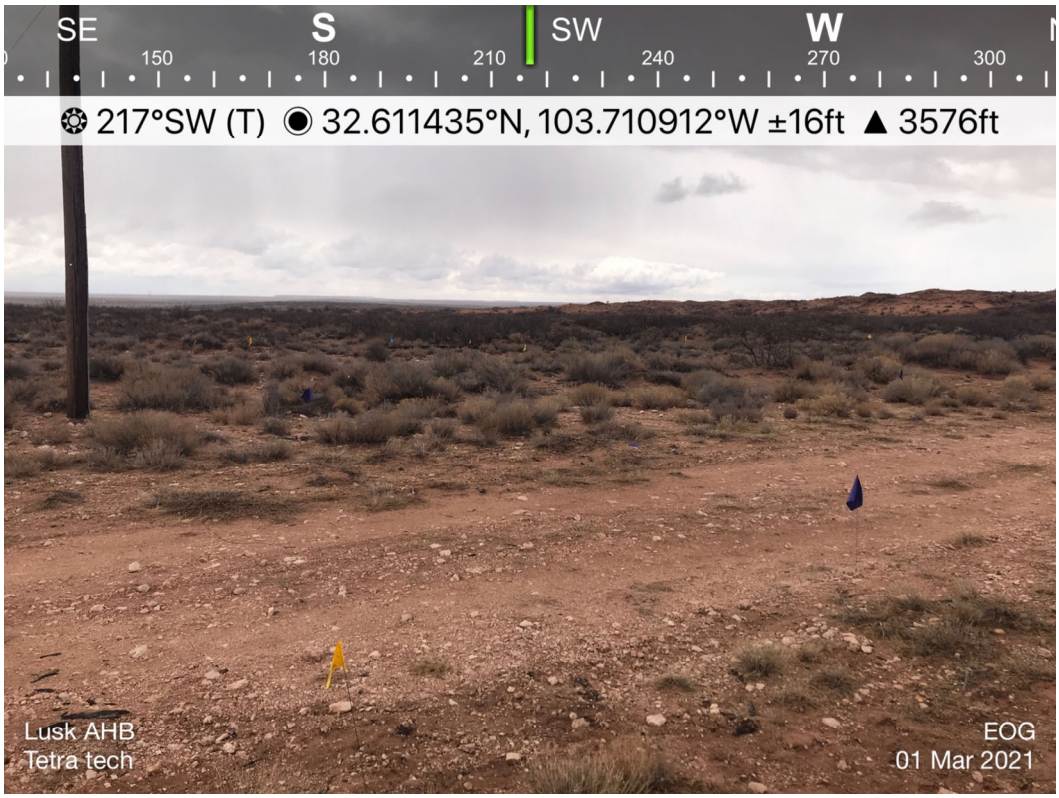
Photos

EOG Resources
Lusk-Belco Water Line
Lea County, New Mexico

TETRA TECH



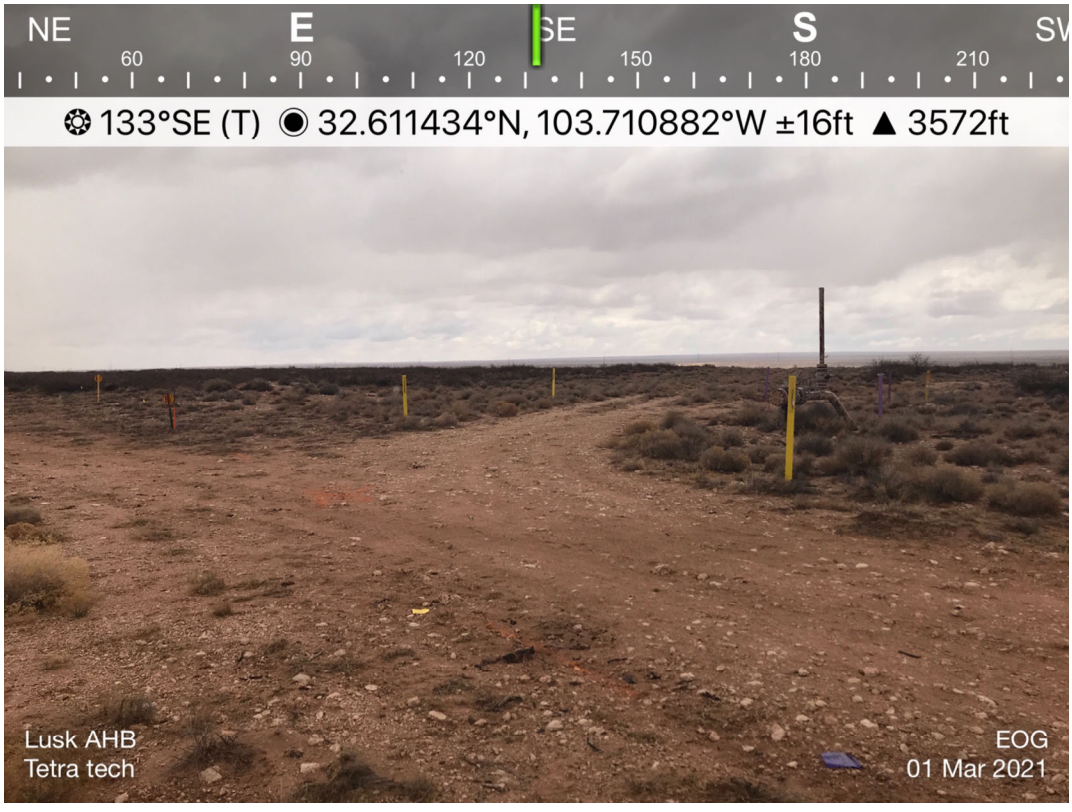
View of Release Area – View East



View of Release Area – View South

EOG Resources
Lusk-Belco Water Line
Lea County, New Mexico

View of Release Area – View Southeast



View of Release Area – View East

Appendix A

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 August 8, 2011
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 Yates Petroleum Corporation	Contact Chase Settle
Address 104 S. 4th Street, Artesia, NM 88210	Telephone No. 575-748-4171
Facility Name Lusk-Belco Water Line	Facility Type Pipeline

Surface Owner State	Mineral Owner State	API No. 30-025-31042

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	36	19S	32E					Lea

Latitude 32.61124 **Longitude** -103.71108

NATURE OF RELEASE

Type of Release Crude Oil and Produced Water	Volume of Release Unknown	Volume Recovered 0
Source of Release Produced Water Line	Date and Hour of Occurrence 4/28/2016; PM	Date and Hour of Discovery 4/28/2016; PM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Jamie Keyes, Ian Dolly, Amber Groves, Mathew Hagman, Mark Najanjo, Dana Strang	
By Whom? Robert Asher	Date and Hour 4/29/2016; 5:01 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
Release was caused by a failure of a 3" poly produced water line, a backhoe crew was called to repair the line and excavate impacted soils.

Describe Area Affected and Cleanup Action Taken.* An approximate area of 20' X 5' was affected within the pipeline Right of Way. Valves were closed on both ends of the line, and a backhoe crew was called to repair the line. Excavated soils will be hauled to an NMOCD approved facility. Vertical and horizontal delineation samples will be taken and analysis ran for TPH & BTEX (chlorides for documentation). If initial analytical results for TPH & BTEX are under RRAL's (site ranking is 0) a Final Report, C-141 will be submitted to the OCD requesting closure. If the analytical results are above the RRAL's a work plan will be submitted to the OCD. . **Depth to Ground Water: >100' (approximately 185', Section 36-T19S-R32E, per Trend Map), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0.**

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: Chase Settle	Approved by Environmental Specialist:
Title: NM Environmental Regulatory Agent	Approval Date: 05/16/2016 Expiration Date: 07/16/2016
E-mail Address: csettle@yatespetroleum.com	Conditions of Approval: Discrete site samples only. Delineate and remediate per NMCOD guidelines. Attached ☐ 1RP 4280
Date: 5/12/2016 Phone: 575-748-4171	

* Attach Additional Sheets If Necessary

nJXK1613732455
pJXK1613732553

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☐ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☐ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☐ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☐ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☐ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☐ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☐ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☐ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature: James F. Kennedy Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: James F. Kennedy Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

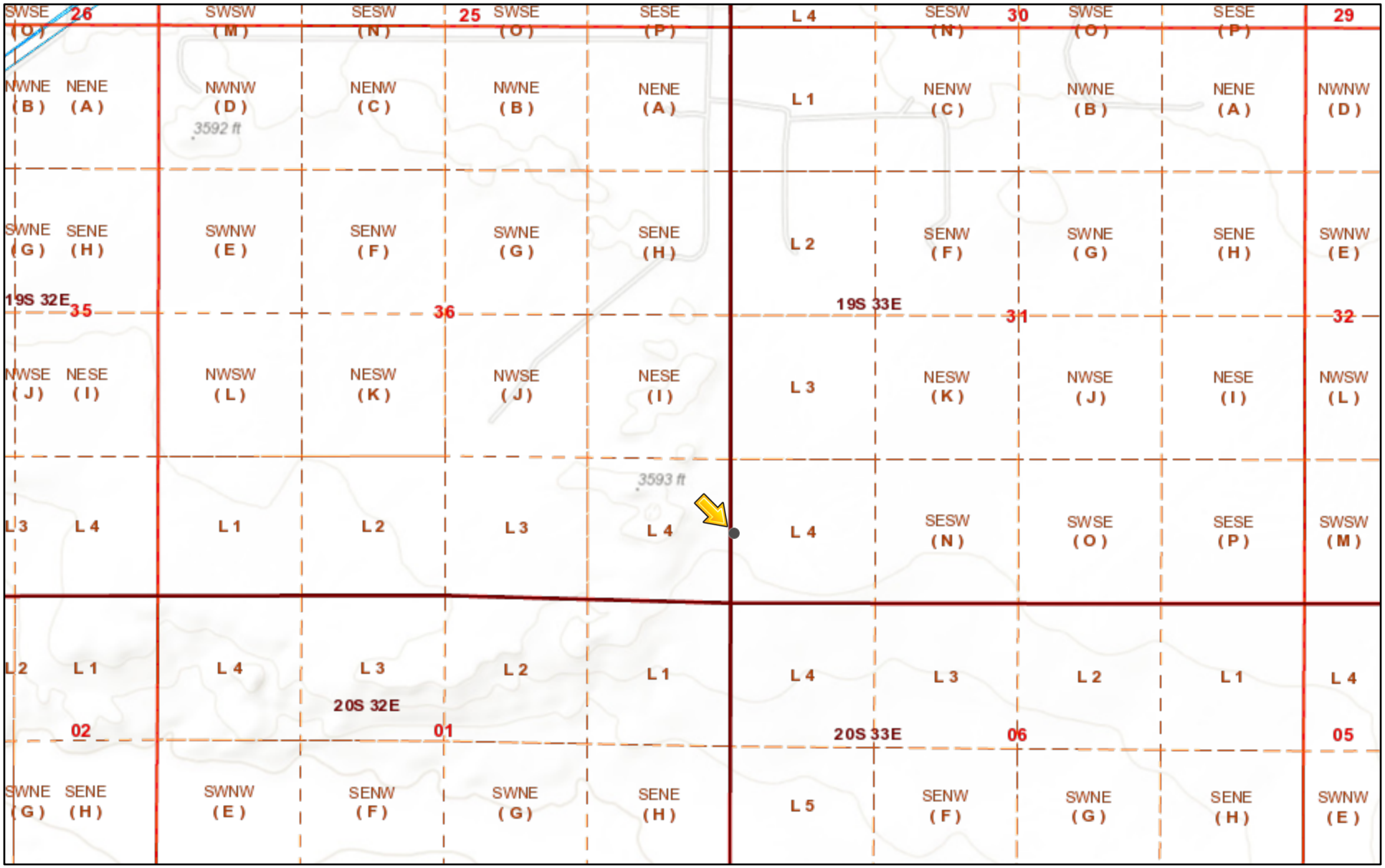
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Appendix B

1RP-4280



2/18/2021, 9:57:09 AM

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Override 1

OCD District Offices

PLSS First Division

PLSS Second Division

PLSS Townships

OSE Water-bodies

PLJV Probable Playas

OSE Streams

Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin,

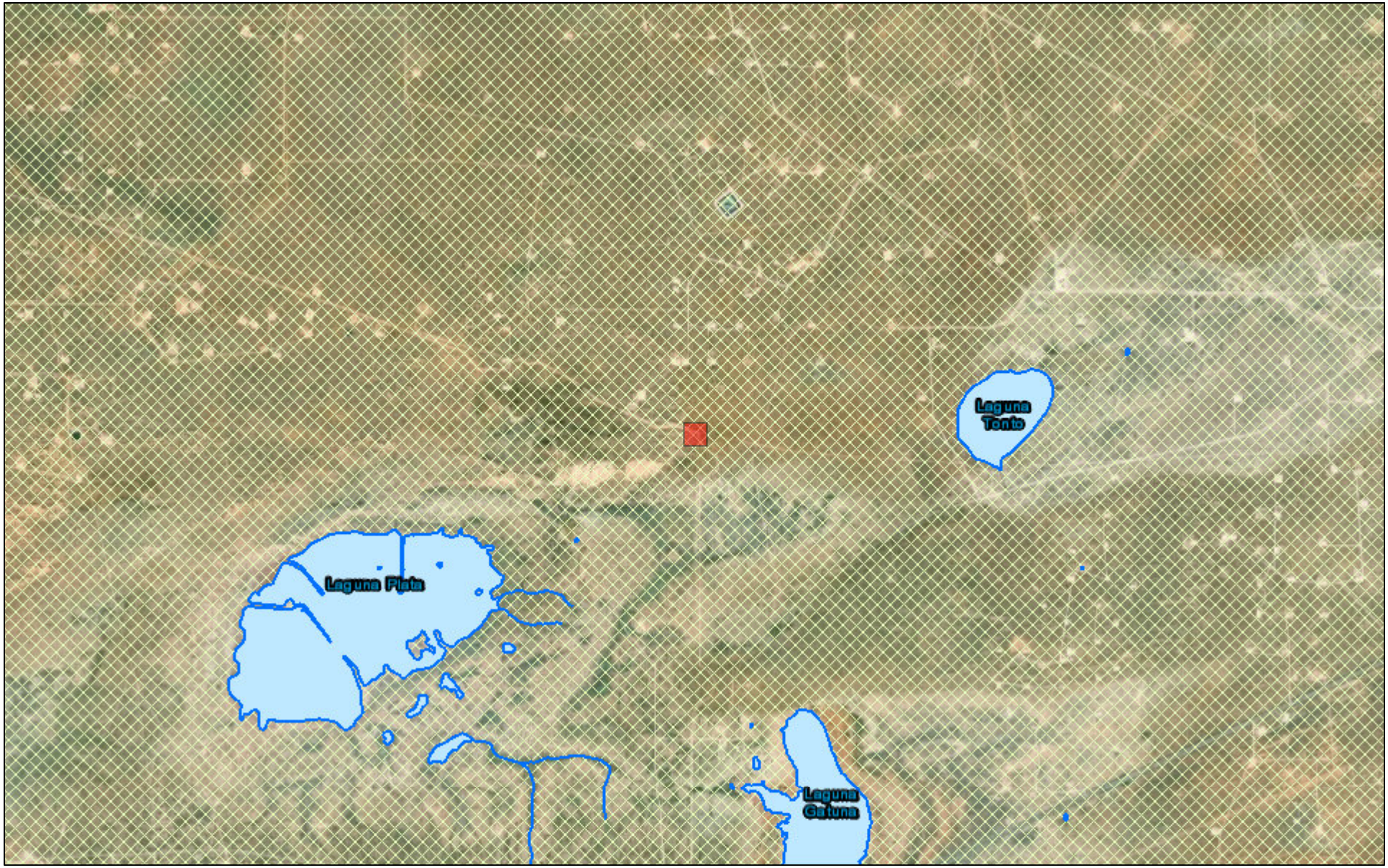
New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

Karst Potential

1RP-4280

New Mexico NFHL Data



February 18, 2021

1:72,224

0 0.5 1 2 mi

0 1 2 4 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

USGS
science for a changing world

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National Water Information System: Mapper

Help Info

Site Information

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National Water Information System: Web Interface

USGS Water Resources

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Data Category: Groundwater | Geographic Area: New Mexico | GO

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for New Mexico

Click to hide state-specific text

* IMPORTANT: Next Generation Station Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 323929103423101

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 323929103423101 19S.33E.18.133223

Lea County, New Mexico
Latitude 32°39'29", Longitude 103°42'31" NAD27
Land-surface elevation 3,636 feet above NAVD88
The depth of the well is 870 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1968-03-15		D	62610		3403.39	NGVD29	1	Z			A
1968-03-15		D	62611		3404.96	NAVD88	1	Z			A
1968-03-15		D	72019	231.04			1	Z			A
1971-01-28		D	62610		3422.57	NGVD29	1	Z			A
1971-01-28		D	62611		3424.14	NAVD88	1	Z			A
1971-01-28		D	72019	211.86			1	Z			A
1976-12-15		D	62610		3443.10	NGVD29	1	Z			A
1976-12-15		D	62611		3444.67	NAVD88	1	Z			A
1976-12-15		D	72019	191.33			1	Z			A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 07023		L	LE	2	3	3	32	19S	33E	622840	3609047*	1908	262	185	77
CP 00317		CP	LE	3	4	3	05	20S	33E	623054	3607235*	2708	680	325	355
CP 00075	O	CP	LE		2	4	34	19S	32E	617502	3609301	3454	575		

Average Depth to Water: **255 feet**

Minimum Depth: **185 feet**

Maximum Depth: **325 feet**

Record Count: 3

UTMNAD83 Radius Search (in meters):

Easting (X): 620935.98 **Northing (Y):** 3608922.9 **Radius:** 3800

***UTM location was derived from PLSS - see Help**

3/19/21 1:26 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Appendix C

From: Groves, Amber
To: Chase Settle; Yu, Olivia, EMNRD
Cc: Katie Parker; Oberding, Tomas, EMNRD
Subject: RE: Lusk-Belco Work Plan
Date: Thursday, April 6, 2017 12:14:59 PM
Attachments: image002.png
image004.png
image001.png

Chase,

NMSLO is in agreement with NMOCD on work plan approval. Your revegetation plan is also approved.

Thank you,

Amber Groves
Remediation Specialist
Field Operations Division
(575)392-3697
(575)263-3209 cell
New Mexico State Land Office
2827 N. Dal Paso Suite 117
Hobbs, NM 88260

.....

From: Chase Settle [mailto:Chase_Settle@eogresources.com]
Sent: Thursday, April 06, 2017 11:12 AM
To: Groves, Amber <agroves@slo.state.nm.us>; Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Katie Parker <Katie_Parker@eogresources.com>; Oberding, Tomas, EMNRD <Tomas.Oberding@state.nm.us>
Subject: Lusk-Belco Work Plan

Please find attached the updated work plan for the below listed location. The seeding and noxious weed protocol have been corrected to meet the requests of NMSLO. I have redacted all analytical information to minimize the file size.

Lusk-Belco Water Line
Section 36, T19S-R32E
Lea County, New Mexico
32.61124, -103.71108
1RP-4280

Thank you,

Chase Settle, M.S.
Rep Safety & Environmental II

EOG Resources
105 S. 4th Street
Artesia, NM 88210
575-748-4171 (Office)
575-703-6537 (Cell)

This email has been scanned by the Symantec Email Security.cloud service.
For more information please visit http://www.symanteccloud.com

From: Yu, Olivia, EMNRD
To: "Chase Settle"; Groves, Amber
Cc: Katie Parker; Oberding, Tomas, EMNRD
Subject: RE: Lusk-Belco Water Line Work Plan
Date: Thursday, March 23, 2017 3:00:00 PM
Attachments: image002.png
image003.png

Dear Mr. Settle:

NMOCD approves the delineation workplan for 1RP-4280. Like approval from NMSLO is required for the delineation workplan and revegetation plan.

Thanks,
Olivia

From: Chase Settle [mailto:Chase_Settle@eogresources.com]
Sent: Thursday, March 23, 2017 1:36 PM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Katie Parker <Katie_Parker@eogresources.com>; Oberding, Tomas, EMNRD <Tomas.Oberding@state.nm.us>
Subject: RE: Lusk-Belco Water Line Work Plan

Ms. Yu,

I have not heard from Dr. Oberding since February 24, 2017 (the email listed below). Attached is the work plan that was originally submitted on December 7, 2016. I have to mention that I am very surprised that approval has not been granted for this workplan by now considering that in Dr. Oberding's email on February 24, 2017, the only NMOCD concern was the depth to groundwater which I was able to provide confirmation of during correspondence the same date.

Thank you,

Chase Settle, M.S.
Rep Safety & Environmental II

EOG Resources
105 S. 4th Street
Artesia, NM 88210
575-748-4171 (Office)
575-703-6537 (Cell)

EOG Resources, Inc.
Artesia Division Office
105 S. 4th Street
Artesia, N. M. 88210

December 7, 2016

APPROVED
By Olivia Yu at 12:59 pm, Apr 06, 2017

Ms. Kristen Lynch
NMOCD District I
1625 N. French Drive
Hobbs, New Mexico 88240

Re: Lusk-Belco Water Line
Section 36, T19S-R32E
Lea County, New Mexico
32.61124, -103.71108
1RP-4280

Ms. Lynch,

EOG Y Resources, Inc. is submitting the enclosed work plan for the above captioned well. The plan is being submitted in response to the C-141 report dated May 12, 2016.

If there are no objections with the scope of work described in the plan, EOG Y Resources, Inc. will have a contractor begin work on or after December 21, 2016.

If you have any questions, feel free to call me at (575) 748-4171

Thank you.

EOG Y Resources, Inc.

Chase Settle
Adv. Environmental Representative

EOG Y Resources, Inc.

Lusk-Belco Water Line Work Plan

Section 14, T20S-R32E

Lea County, New Mexico

July 19, 2016

1RP- 4290

I. Location

From the intersection of 243 and 126A, take 126A north for approximately 6.07 miles, then turn east onto lease road and follow for 5.05 miles, then turn south on lease road for 2.16 miles, then turn southwest for 5,062 feet, then turn west for 3,194 feet, then turn south for 1.31 miles, take the temporary road east for 2,626 feet to the release site.

II. Background

On May 12, 2016, EOG Y Resources, Inc. submitted to the NMOCD District I office a Form C-141 for the release of an unknown amount of Crude Oil and Produced Water with none recovered. The affected area is approximately 30 feet by 10 feet area around a pipeline within the Right of Way. Failure of a poly transfer line caused the release. Initial delineation samples were taken (5/5/2016) and sent to a NMOCD approved laboratory (5/13/2016 & 5/25/2016, results enclosed). Further sampling was conducted (6/8/2016) with samples sent to a NMOCD approved laboratory (6/17/2016, results enclosed). In order to sample delineate chloride concentrations further, a core rig was used to obtain samples (11/16/2016) which were sent to a NMOCD approved laboratory (11/30/2016, results enclosed).

III. Surface and Ground Water

Area surface geology is Cenozoic Quaternary. The ChevronTexaco Trend Map displays at this location (Section 36, T19S-R32E) that depth to groundwater is approximately 185 feet making the site ranking for this site a zero (0). Watercourses in the area are dry except for infrequent flows in response to major precipitation events.

The ranking for this site is zero (0) based on the as following:

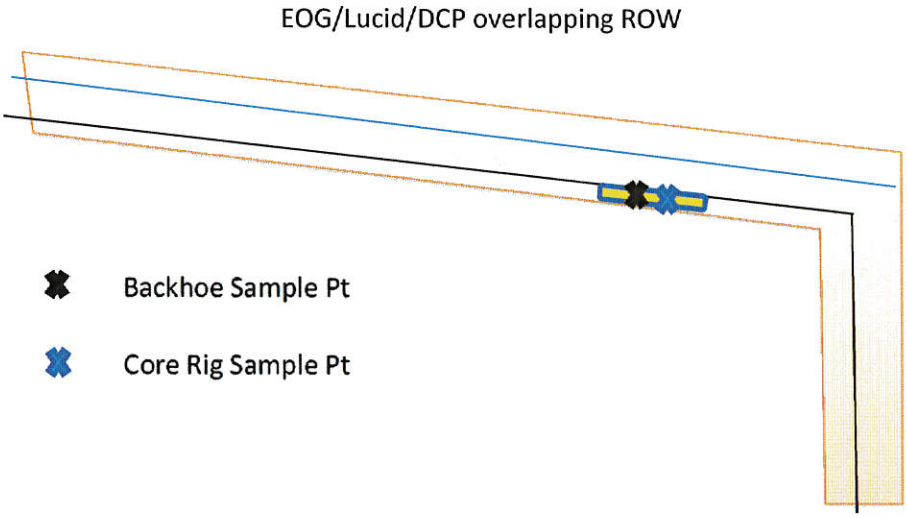
Depth to ground water	> 100’
Wellhead Protection Area	> 1000’
Distance to surface water body	> 1000’

IV. Soils

The area consists of soils that are sand based topsoil on top of a clay/sand/loam mix with a thick fine-clay layer prohibiting further migration of contaminants beginning at 35’ BSL and continuing past 45’ BSL.

V. Scope of Work

Based on enclosed analytical results, the depth to groundwater (185’), and a decrease in chlorides, EOG Y Resources, Inc. will excavate four (4) feet of impacted soil from the release area, hauling all excavated soil to a NMOCD approved facility for disposal. EOG Y Resources, Inc. will then install a 20 ml synthetic liner to prohibit percolation of moisture deeper into the subsurface, restricting further chloride migration deeper towards groundwater or rising back to the surface. EOG Y Resources, Inc. will then backfill the excavated area with two (2) feet of caliche, followed by two (2) feet of topsoil to allow for vegetative repopulation of the release site. The first July following soil remediation, the site will be reseeded with the following seed mix with a lb. PLS/acre basis: Sand dropseed 1.0 lb/acre, Plains bristlegrass 2.0 lb/acre, and Little bluestem 1.0 lb/acre (if broadcast these amounts will be doubled). During site remediation monitoring, evaluations for noxious weeds (NM Noxious Weed List updated Oct. 2016) will be undertaken. If noxious weeds are present, they will be addressed using the appropriate method (chemical, mechanical, or biological) until eradication is complete. The TPH & BTEX are within the RRAL’s for BTEX (50 ppm) and TPH (5000 ppm) for the Total Ranking Score of zero (0) in the release area, no further analytical testing of TPH and/or BTEX will be conducted (all chloride analytical results are for documentation). When remediation work is completed a C-141 Final Report will be submitted to the NMOCD requesting closure of the site.



DCP- Blue Line

EOG/Lucid- Black Line

Release Area- Yellow Box

Backhoe Sample Pt

Core Rig Sample Pt

Lusk-Belco Water Line

Area	Analysis #	Sample Area	Sample Date	Sample Type	Depth	BTEX	GRO	DRO	Chlorides
S1-1'	1605302	Release Area	5/5/2016	Backhoe	1'	N/D	N/D	N/D	7300
S1-2'	1605302	Release Area	5/5/2016	Backhoe	2'	N/D	N/D	N/D	13000
S1-3'	1605302	Release Area	5/5/2016	Backhoe	3'	N/D	N/D	N/D	14000
S1-4'	1605302	Release Area	5/5/2016	Backhoe	4'	N/D	N/D	N/D	19000
S1-5'	1605740	Release Area	5/5/2016	Backhoe	5'				25000
S1-6'	1605740	Release Area	5/5/2016	Backhoe	6'				25000
S1-8'	1605740	Release Area	5/5/2016	Backhoe	8'				26000
S1-10'	1605740	Release Area	5/5/2016	Backhoe	10'				24000
S1-12'	1605740	Release Area	5/5/2016	Backhoe	12'				22000
S1-14'	1605740	Release Area	5/5/2016	Backhoe	14'				20000
S1-17'	1606535	Release Area	6/8/2016	Backhoe	17'				16000
S1-18'	1606535	Release Area	6/8/2016	Backhoe	18'				13000
S1-20'	1606535	Release Area	6/8/2016	Backhoe	20'				17000
CR-20'	1611A10	Release Area	6/8/2016	Core Rig	20'				16000
CR-25'	1611A10	Release Area	6/8/2016	Core Rig	25'				8700
CR-30'	1611A10	Release Area	6/8/2016	Core Rig	30'				14000
CR-35'	1611A10	Release Area	6/8/2016	Core Rig	35'				740
CR-40'	1611A10	Release Area	6/8/2016	Core Rig	40'				490
CR-45'	1611A10	Release Area	6/8/2016	Core Rig	45'				500

Site Ranking is Zero (0). >100' (185', Section 36, T19S-R32E, Trend Map)

All results are ppm. Chlorides for documentation

Released: Unknown ; Recovered: 0 Release Date: 04/28/2016

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

May 13, 2016

Chase Settle
Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4195
FAX

RE: Lusk AHB Belco Water Line OrderNo.: 1605302

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 4 sample(s) on 5/6/2016 for the analyses presented in the following report.

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. In order to properly interpret your results it is imperative that you review this report in its entirety. 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. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1605302**
Date Reported: **5/13/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB Belco Water Line
Lab ID: 1605302-001 **Matrix:** SOIL

Client Sample ID: S1-1'
Collection Date: 5/5/2016 12:14:00 PM
Received Date: 5/6/2016 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	7300	300		mg/Kg	200	5/13/2016 11:51:57 AM	25299
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/10/2016 8:15:26 PM	25219
Surr: DNOP	93.4	70-130		%Rec	1	5/10/2016 8:15:26 PM	25219
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/9/2016 8:40:26 PM	25187
Surr: BFB	99.1	80-120		%Rec	1	5/9/2016 8:40:26 PM	25187
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	5/9/2016 8:40:26 PM	25187
Benzene	ND	0.024		mg/Kg	1	5/9/2016 8:40:26 PM	25187
Toluene	ND	0.047		mg/Kg	1	5/9/2016 8:40:26 PM	25187
Ethylbenzene	ND	0.047		mg/Kg	1	5/9/2016 8:40:26 PM	25187
Xylenes, Total	ND	0.095		mg/Kg	1	5/9/2016 8:40:26 PM	25187
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	5/9/2016 8:40:26 PM	25187

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

Analytical Report
Lab Order **1605302**
Date Reported: **5/13/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB Belco Water Line
Lab ID: 1605302-002 **Matrix:** SOIL

Client Sample ID: S1-2'
Collection Date: 5/5/2016 12:16:00 PM
Received Date: 5/6/2016 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	13000	750		mg/Kg	500	5/13/2016 12:04:22 PM	25299
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/10/2016 8:37:09 PM	25219
Surr: DNOP	92.9	70-130		%Rec	1	5/10/2016 8:37:09 PM	25219
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/9/2016 9:03:53 PM	25187
Surr: BFB	99.3	80-120		%Rec	1	5/9/2016 9:03:53 PM	25187
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	5/9/2016 9:03:53 PM	25187
Benzene	ND	0.024		mg/Kg	1	5/9/2016 9:03:53 PM	25187
Toluene	ND	0.048		mg/Kg	1	5/9/2016 9:03:53 PM	25187
Ethylbenzene	ND	0.048		mg/Kg	1	5/9/2016 9:03:53 PM	25187
Xylenes, Total	ND	0.096		mg/Kg	1	5/9/2016 9:03:53 PM	25187
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	5/9/2016 9:03:53 PM	25187

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

Analytical Report
Lab Order **1605302**
Date Reported: **5/13/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB Belco Water Line
Lab ID: 1605302-003 **Matrix:** SOIL

Client Sample ID: S1-3'
Collection Date: 5/5/2016 12:19:00 PM
Received Date: 5/6/2016 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	14000	750		mg/Kg	500	5/13/2016 12:16:46 PM	25299
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/10/2016 8:58:50 PM	25219
Surr: DNOP	93.2	70-130		%Rec	1	5/10/2016 8:58:50 PM	25219
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/9/2016 9:27:18 PM	25187
Surr: BFB	99.0	80-120		%Rec	1	5/9/2016 9:27:18 PM	25187
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	5/9/2016 9:27:18 PM	25187
Benzene	ND	0.024		mg/Kg	1	5/9/2016 9:27:18 PM	25187
Toluene	ND	0.047		mg/Kg	1	5/9/2016 9:27:18 PM	25187
Ethylbenzene	ND	0.047		mg/Kg	1	5/9/2016 9:27:18 PM	25187
Xylenes, Total	ND	0.094		mg/Kg	1	5/9/2016 9:27:18 PM	25187
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	5/9/2016 9:27:18 PM	25187

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

Analytical Report
Lab Order **1605302**
Date Reported: **5/13/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB Belco Water Line
Lab ID: 1605302-004 **Matrix:** SOIL

Client Sample ID: S1-4'
Collection Date: 5/5/2016 12:23:00 PM
Received Date: 5/6/2016 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	19000	750		mg/Kg	500	5/13/2016 12:29:10 PM	25299
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/10/2016 9:20:38 PM	25219
Surr: DNOP	93.4	70-130		%Rec	1	5/10/2016 9:20:38 PM	25219
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/9/2016 9:50:44 PM	25187
Surr: BFB	98.9	80-120		%Rec	1	5/9/2016 9:50:44 PM	25187
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	5/9/2016 9:50:44 PM	25187
Benzene	ND	0.024		mg/Kg	1	5/9/2016 9:50:44 PM	25187
Toluene	ND	0.048		mg/Kg	1	5/9/2016 9:50:44 PM	25187
Ethylbenzene	ND	0.048		mg/Kg	1	5/9/2016 9:50:44 PM	25187
Xylenes, Total	ND	0.097		mg/Kg	1	5/9/2016 9:50:44 PM	25187
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	5/9/2016 9:50:44 PM	25187

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605302

13-May-16

Client: Yates Petroleum Corporation

Project: Lusk AHB Belco Water Line

Sample ID	MB-25299	SampType:	mblk		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	25299		RunNo:	34199				
Prep Date:	5/12/2016	Analysis Date:	5/12/2016		SeqNo:	1054649	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-25299	SampType:	lcs		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	25299		RunNo:	34199				
Prep Date:	5/12/2016	Analysis Date:	5/12/2016		SeqNo:	1054650	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.2	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#: 1605302

13-May-16

Client: Yates Petroleum Corporation

Project: Lusk AHB Belco Water Line

Sample ID	LCS-25208	SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS	Batch ID:	25208		RunNo:	34107				
Prep Date:	5/9/2016	Analysis Date:	5/10/2016		SeqNo:	1051391	Units:	%Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.3		5.000		126	70	130			

Sample ID	LCS-25219	SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS	Batch ID:	25219		RunNo:	34107				
Prep Date:	5/9/2016	Analysis Date:	5/10/2016		SeqNo:	1051392	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	107	65.8	136			
Surr: DNOP	5.1		5.000		101	70	130			

Sample ID	MB-25208	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	25208		RunNo:	34107				
Prep Date:	5/9/2016	Analysis Date:	5/10/2016		SeqNo:	1051393	Units:	%Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		100	70	130			

Sample ID	MB-25219	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	25219		RunNo:	34107				
Prep Date:	5/9/2016	Analysis Date:	5/10/2016		SeqNo:	1051394	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	11		10.00		106	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#: 1605302

13-May-16

Client: Yates Petroleum Corporation

Project: Lusk AHB Belco Water Line

Sample ID	MB-25187	SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS	Batch ID:	25187		RunNo:	34080				
Prep Date:	5/6/2016	Analysis Date:	5/9/2016		SeqNo:	1050472	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	970		1000		96.5	80	120			

Sample ID	LCS-25187	SampType:	LCS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	LCSS	Batch ID:	25187		RunNo:	34080				
Prep Date:	5/6/2016	Analysis Date:	5/9/2016		SeqNo:	1050473	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.6	80	120			
Surr: BFB	1000		1000		105	80	120			

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#: 1605302

13-May-16

Client: Yates Petroleum Corporation

Project: Lusk AHB Belco Water Line

Sample ID MB-25187	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 25187	RunNo: 34080							
Prep Date: 5/6/2016	Analysis Date: 5/9/2016	SeqNo: 1050509	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID LCS-25187	SampType: LCS	TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 25187	RunNo: 34080							
Prep Date: 5/6/2016	Analysis Date: 5/9/2016	SeqNo: 1050510	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.0	0.10	1.000	0	101	61	143			
Benzene	1.1	0.025	1.000	0	106	75.3	123			
Toluene	0.96	0.050	1.000	0	96.3	80	124			
Ethylbenzene	0.91	0.050	1.000	0	91.0	82.8	121			
Xylenes, Total	2.7	0.10	3.000	0	91.1	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

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: Yates Petroleum Corpora Work Order Number: 1605302 RcptNo: 1

Received by/date: 05/06/16

Logged By: Lindsay Mangin 5/6/2016 10:30:00 AM

Completed By: Lindsay Mangin 5/6/2016 12:58:06 PM

Reviewed By: 05/06/16

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?	Courier		

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	1.0	Good	Yes			

Page 1 of 1

Chain-of-Custody Record

Client: Yates Petroleum Corporation

Mailing Address:

105 South 4th Street Artesia, NM 88210

Phone #: 575-703-6537

email or Fax#: csettle@yatespetroleum.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name:

Lusk AHB-Belco Water Line

Project #:

Project Manager:

Chase Settle

PO # 205. 0750

Sampler: Chase Settle

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

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. 1605302	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 PNA or PAH	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
5-5-16	12:49	Soil	S1-1'	1 - 4oz.	ICE	-001	X		X					X							
5-5-16	12:16	Soil	S1-2'	1 - 4oz.	ICE	-002	X		X					X							
5-5-16	12:19	Soil	S1-3'	1 - 4oz.	ICE	-003	X		X					X							
5-5-16	12:23	Soil	S1-4'	1 - 4oz.	ICE	-004	X		X					X							

Date:	Time:	Relinquished by:	Received by:	Date	Time
5-6-16	2:05			05/06/16	1030
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Results needed by 5-13-16.

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.

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

May 25, 2016

Chase Settle

Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4195
FAX

RE: Lusk AHB Belco Water Line OrderNo.: 1605740

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/17/2016 for the analyses presented in the following report.

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. In order to properly interpret your results it is imperative that you review this report in its entirety. 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. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1605740**
Date Reported: **5/25/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB Belco Water Line
Lab Order: 1605740

Lab ID: 1605740-001 **Collection Date:** 5/5/2016 12:28:00 PM
Client Sample ID: S1-5' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	25000	1500		mg/Kg	1E	5/23/2016 9:09:28 PM	25413

Lab ID: 1605740-002 **Collection Date:** 5/5/2016 12:31:00 PM
Client Sample ID: S1-6' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	25000	1500		mg/Kg	1E	5/23/2016 9:21:52 PM	25413

Lab ID: 1605740-003 **Collection Date:** 5/5/2016 12:37:00 PM
Client Sample ID: S1-8' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	26000	1500		mg/Kg	1E	5/23/2016 9:34:17 PM	25413

Lab ID: 1605740-004 **Collection Date:** 5/5/2016 12:44:00 PM
Client Sample ID: S1-10' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	24000	1500		mg/Kg	1E	5/23/2016 9:46:41 PM	25413

Lab ID: 1605740-005 **Collection Date:** 5/5/2016 12:50:00 PM
Client Sample ID: S1-12' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	22000	750		mg/Kg	500	5/23/2016 10:23:55 PM	25413

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

Analytical Report
Lab Order: **1605740**
Date Reported: **5/25/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB Belco Water Line
Lab Order: 1605740

Lab ID: 1605740-006
Client Sample ID: S1-14'
Collection Date: 5/5/2016 12:58:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	20000	750		mg/Kg	500	5/23/2016 10:36:19 PM	25413

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605740

25-May-16

Client: Yates Petroleum Corporation

Project: Lusk AHB Belco Water Line

Sample ID	MB-25413	SampType:	mblk		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	25413		RunNo:	34392				
Prep Date:	5/19/2016	Analysis Date:	5/19/2016		SeqNo:	1060476	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-25413	SampType:	lcs		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	25413		RunNo:	34392				
Prep Date:	5/19/2016	Analysis Date:	5/19/2016		SeqNo:	1060477	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.0	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

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: Yates Petroleum Corpora Work Order Number: 1605740 RcptNo: 1

Received by/date: 05/17/16

Logged By: Lindsay Mangin 5/17/2016 9:40:00 AM

Completed By: Lindsay Mangin 5/17/2016 9:51:52 AM

Reviewed By: 05/17/16

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?	Courier		

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	5.4	Good	Yes			

Chain-of-Custody Record

Client: Yates Petroleum Corporation

Mailing Address:

105 South 4th Street Artesia, NM 88210

Phone #: 575-703-6537

email or Fax#: csettle@yatespetroleum.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name:

Lusk AHB-Belco Water Line

Project #:

Project Manager:

Chase Settle

PO # 205. 0750

Sampler: Chase Settle

On Ice: ☑ Yes ☐ No

Sample Temperature: 5.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1605741O	Analysis Request: BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIM)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
5/5/2016	12:28P	Soil	S1-5'	1 - 4oz.	None	-001								X				
5/5/2016	12:31P	Soil	S1-6'	1 - 4oz.	None	-002								X				
5/5/2016	12:37P	Soil	S1-8'	1 - 4oz.	None	-003								X				
5/5/2016	12:44P	Soil	S1-10'	1 - 4oz.	None	-004								X				
5/5/2016	12:50P	Soil	S1-12'	1 - 4oz.	None	-005								X				
5/5/2016	12:58P	Soil	S1-14'	1 - 4oz.	None	-006								X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
5.16.16	9:00am			05/17/16	0940
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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.

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

June 17, 2016

Chase Settle

Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4195
FAX

RE: Lusk AHB Belco Water Line OrderNo.: 1606535

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/10/2016 for the analyses presented in the following report.

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. In order to properly interpret your results it is imperative that you review this report in its entirety. 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. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1606535**
Date Reported: **6/17/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB Belco Water Line
Lab Order: 1606535

Lab ID: 1606535-001 **Collection Date:** 6/8/2016 10:37:00 AM
Client Sample ID: S1-17' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	16000	750		mg/Kg	500	6/15/2016 4:24:35 PM	25840

Lab ID: 1606535-002 **Collection Date:** 6/8/2016 11:14:00 AM
Client Sample ID: S1-18' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	13000	750		mg/Kg	500	6/15/2016 4:37:00 PM	25840

Lab ID: 1606535-003 **Collection Date:** 6/8/2016 11:30:00 AM
Client Sample ID: S1-20' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	17000	750		mg/Kg	500	6/15/2016 4:49:25 PM	25840

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606535**

17-Jun-16

Client: Yates Petroleum Corporation

Project: Lusk AHB Belco Water Line

Sample ID	MB-25840	SampType:	mblk		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	25840		RunNo:	34930				
Prep Date:	6/14/2016	Analysis Date:	6/14/2016		SeqNo:	1078875	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-25840	SampType:	lcs		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	25840		RunNo:	34930				
Prep Date:	6/14/2016	Analysis Date:	6/14/2016		SeqNo:	1078876	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.7	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

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: **Yates Petroleum Corporat** Work Order Number: **1606535** RcptNo: **1**

Received by/date: 06/10/16

Logged By: **Lindsay Mangin** 6/10/2016 9:30:00 AM

Completed By: **Lindsay Mangin** 6/10/2016 10:32:09 AM

Reviewed By:

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?	Courier		

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 ☑ Approved by client.	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 ☑	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
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	19.6	Good	Yes			

Chain-of-Custody Record

Client: Yates Petroleum Corporation

Mailing Address:

105 South 4th Street Artesia, NM 88210

Phone #: 575-703-6537

email or Fax#: csettle@yatespetroleum.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name:

Lusk AHB-Belco Water Line

Project #:

Project Manager:

Chase Settle

PO # 205. 0750

Sampler: Chase Settle

On Ice: ☑ Yes ☐ No

Sample Temperature: 20.0-1.0cf = 19.6

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. 1606535	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
6/8/2016	10:37A	Soil	S1-17'	1 - 4oz.	None	-001								X								
6/8/2016	11:14A	Soil	S1-18'	1 - 4oz.	None	-002								X								
6/8/2016	11:30A	Soil	S1-20'	1 - 4oz.	None	-003								X								

Date	Time	Relinquished by:	Received by:	Date	Time
6-9-16	8:00am				
		Relinquished by:	Received by:	10/10/16	0936

Remarks:

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.

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

November 30, 2016

Chase Settle
Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4111
FAX

RE: Lusk AHB-Belco Water Line OrderNo.: 1611A10

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 6 sample(s) on 11/18/2016 for the analyses presented in the following report.

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. In order to properly interpret your results it is imperative that you review this report in its entirety. 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. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1611A10**
Date Reported: **11/30/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB-Belco Water Line
Lab ID: 1611A10-001 **Matrix:** SOIL

Client Sample ID: CR-20'
Collection Date: 11/16/2016 1:55:00 PM
Received Date: 11/18/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	16000	750		mg/Kg	500	11/29/2016 12:07:21 AM	28796

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

Analytical Report
Lab Order **1611A10**
Date Reported: **11/30/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Client Sample ID: CR-25'
Project: Lusk AHB-Belco Water Line
Collection Date: 11/16/2016 2:05:00 PM
Lab ID: 1611A10-002 **Matrix:** SOIL **Received Date:** 11/18/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	8700	750		mg/Kg	500	11/29/2016 12:19:46 AM	28796

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

Analytical Report
Lab Order **1611A10**
Date Reported: **11/30/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB-Belco Water Line
Lab ID: 1611A10-003 **Matrix:** SOIL

Client Sample ID: CR-30'
Collection Date: 11/16/2016 2:10:00 PM
Received Date: 11/18/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	14000	750		mg/Kg	500	11/29/2016 12:32:11 AM	28796

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

Analytical Report
Lab Order **1611A10**
Date Reported: **11/30/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB-Belco Water Line
Lab ID: 1611A10-004 **Matrix:** SOIL

Client Sample ID: CR-35'
Collection Date: 11/16/2016 2:19:00 PM
Received Date: 11/18/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	740	30		mg/Kg	20	11/22/2016 7:43:15 PM	28796

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

Analytical Report
Lab Order **1611A10**
Date Reported: **11/30/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB-Belco Water Line
Lab ID: 1611A10-005 **Matrix:** SOIL

Client Sample ID: CR-40'
Collection Date: 11/16/2016 2:28:00 PM
Received Date: 11/18/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	490	30		mg/Kg	20	11/22/2016 7:55:40 PM	28796

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

Analytical Report
Lab Order **1611A10**
Date Reported: **11/30/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Lusk AHB-Belco Water Line
Lab ID: 1611A10-006 **Matrix:** SOIL

Client Sample ID: CR-45'
Collection Date: 11/16/2016 2:39:00 PM
Received Date: 11/18/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	500	30		mg/Kg	20	11/22/2016 8:08:04 PM	28796

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611A10**

30-Nov-16

Client: Yates Petroleum Corporation

Project: Lusk AHB-Belco Water Line

Sample ID	**MB-28796**	SampType:	**MBLK**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**28796**		RunNo:	**38922**				
Prep Date:	**11/21/2016**	Analysis Date:	**11/22/2016**		SeqNo:	**1216481**	Units:	**mg/Kg**		

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

Sample ID	**LCS-28796**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**28796**		RunNo:	**38922**				
Prep Date:	**11/21/2016**	Analysis Date:	**11/22/2016**		SeqNo:	**1216482**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	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

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: EOG/Yates | Work Order Number: 1611A10 | RcptNo: 1

Received by/date: AC 11/18/16

Logged By: Ashley Gallegos 11/18/2016 9:30:00 AM

Completed By: Ashley Gallegos 11/18/2016 12:12:59 PM

Reviewed By: AC | AG 11/18/16

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?	Courier		

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 ☑ Not required	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 ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
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 ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

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	15.0	Good	Yes			

Chain-of-Custody Record

Client: Yates Petroleum Corporation

Mailing Address:

105 South 4th Street Artesia, NM 88210

Phone #: 575-703-6537

email or Fax#: csettle@yatespetroleum.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

X Standard ☐ Rush_____

Project Name:

Lusk AHB-Belco Water Line

Project #:

Project Manager:

Chase Settle

PO # 205. 0750

Sampler: Chase Settle

On Ice: ☐ Yes ☒ No

Sample Temperature: 5.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1611410	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
11/16/16 ########	1:55p	Soil	CR-20'	1 - 4oz.	None	-001								X								
########	2:05p	Soil	CR-25'	1 - 4oz.	None	-002								X								
########	2:10p	Soil	CR-30'	1 - 4oz.	None	-003								X								
########	2:19p	Soil	CR-35'	1 - 4oz.	None	-004								X								
########	2:28p	Soil	CR-40'	1 - 4oz.	None	-005								X								
########	2:39p	Soil	CR-45'	1 - 4oz.	None	-006								X								

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/17/16	2:00		Lindsey Concha	11/18/16	0930
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Results needed by 11/29/2016.

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.

Appendix D

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Certificate of Analysis Summary 690614

Tetra Tech- Midland, Midland, TX

Project Name: EOG-Lusk AHB

Project Id: 212C-MD-0419 TASK:1400
Contact: Clair Gonzales
Project Location: Lea County, NM

Date Received in Lab: Fri 03.05.2021 12:41
Report Date: 03.15.2021 15:45
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	690614-001		690614-002		690614-003		690614-004					
	Field Id:	AH-1 (0-1)		AH-1 (1.5'-2')		AH-1 (2.5'-3')		AH-1 (3.5'-4')					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	03.01.2021 00:00		03.01.2021 00:00		03.01.2021 00:00		03.01.2021 00:00					
BTEX by EPA 8021B	***Extracted:***	03.12.2021 12:00		03.12.2021 12:00		03.12.2021 12:00		03.12.2021 12:00					
	Analyzed:	03.12.2021 15:11		03.12.2021 17:14		03.12.2021 17:34		03.12.2021 17:54					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198				
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198				
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198				
m,p-Xylenes		<0.00396	0.00396	<0.00400	0.00400	<0.00398	0.00398	<0.00397	0.00397				
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198				
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198				
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198				
Inorganic Anions by EPA 300/300.1	***Extracted:***	03.06.2021 14:30		03.06.2021 14:30		03.06.2021 14:30		03.06.2021 14:30					
	Analyzed:	03.06.2021 15:07		03.06.2021 15:12		03.06.2021 15:27		03.06.2021 15:32					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		7.51	5.01	6.98	5.01	6.89	5.00	6.48	5.00				
TPH By SW8015 Mod	***Extracted:***	03.05.2021 17:00		03.05.2021 17:00		03.05.2021 17:00		03.05.2021 17:00					
	Analyzed:	03.05.2021 23:36		03.06.2021 00:40		03.06.2021 01:02		03.06.2021 01:23					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0				
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0				
Total TPH		<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.0	50.0				

BRL - Below Reporting Limit

Jessica Kramer

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

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Analytical Report 690614

for

Tetra Tech- Midland

Project Manager: Clair Gonzales

EOG-Lusk AHB

212C-MD-0419 TASK:1400

03.15.2021

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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03.15.2021

Project Manager: **Clair Gonzales**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: Eurofins Xenco, LLC Report No(s): **690614**
EOG-Lusk AHB
Project Address: Lea County, NM

Clair Gonzales:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 690614. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 690614 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

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Sample Cross Reference 690614

Tetra Tech- Midland, Midland, TX

EOG-Lusk AHB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1 (0-1)	S	03.01.2021 00:00		690614-001
AH-1 (1.5'-2')	S	03.01.2021 00:00		690614-002
AH-1 (2.5'-3')	S	03.01.2021 00:00		690614-003
AH-1 (3.5'-4')	S	03.01.2021 00:00		690614-004

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CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: EOG-Lusk AHB

Project ID: *212C-MD-0419 TASK:1*
Work Order Number(s): *690614*

Report Date: *03.15.2021*
Date Received: *03.05.2021*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 690614

Tetra Tech- Midland, Midland, TX

EOG-Lusk AHB

Sample Id: **AH-1 (0-1)** Matrix: Soil Date Received:03.05.2021 12:41

Lab Sample Id: 690614-001 Date Collected: 03.01.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: SPC

Analyst: SPC Date Prep: 03.06.2021 14:30 % Moisture:

Seq Number: 3152765 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.51**	5.01	mg/kg	03.06.2021 15:07		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 03.05.2021 17:00 % Moisture:

Seq Number: 3152841 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.05.2021 23:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	03.05.2021 23:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.05.2021 23:36	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.05.2021 23:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	03.05.2021 23:36	
o-Terphenyl	84-15-1	77	%	70-130	03.05.2021 23:36	

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Tetra Tech- Midland, Midland, TX

EOG-Lusk AHB

Sample Id:	**AH-1 (0-1)**	Matrix:	Soil	Date Received:	03.05.2021 12:41
Lab Sample Id:	690614-001	Date Collected:	03.01.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	03.12.2021 12:00	% Moisture:	
Seq Number:	3153519			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.12.2021 15:11	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.12.2021 15:11	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.12.2021 15:11	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	03.12.2021 15:11	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.12.2021 15:11	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.12.2021 15:11	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.12.2021 15:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.12.2021 15:11	
4-Bromofluorobenzene	460-00-4	98	%	70-130	03.12.2021 15:11	

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Tetra Tech- Midland, Midland, TX

EOG-Lusk AHB

Sample Id: **AH-1 (1.5'-2')** Matrix: Soil Date Received:03.05.2021 12:41

Lab Sample Id: 690614-002 Date Collected: 03.01.2021 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: SPC

Analyst: SPC Date Prep: 03.06.2021 14:30 % Moisture:

Seq Number: 3152765 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.98**	5.01	mg/kg	03.06.2021 15:12		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DVM

Analyst: ARM Date Prep: 03.05.2021 17:00 % Moisture:

Seq Number: 3152841 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.06.2021 00:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	03.06.2021 00:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.06.2021 00:40	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.06.2021 00:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-130	03.06.2021 00:40	
o-Terphenyl	84-15-1	80	%	70-130	03.06.2021 00:40	

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Tetra Tech- Midland, Midland, TX

EOG-Lusk AHB

Sample Id:	**AH-1 (1.5'-2')**	Matrix:	Soil	Date Received:	03.05.2021 12:41
Lab Sample Id:	690614-002	Date Collected:	03.01.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	03.12.2021 12:00	% Moisture:	
Seq Number:	3153519			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.12.2021 17:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.12.2021 17:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.12.2021 17:14	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.12.2021 17:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.12.2021 17:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.12.2021 17:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.12.2021 17:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	03.12.2021 17:14	
1,4-Difluorobenzene	540-36-3	99	%	70-130	03.12.2021 17:14	

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Certificate of Analytical Results 690614

Tetra Tech- Midland, Midland, TX

EOG-Lusk AHB

Sample Id:	**AH-1 (2.5'-3')**	Matrix:	Soil	Date Received:	03.05.2021 12:41
Lab Sample Id:	690614-003	Date Collected:	03.01.2021 00:00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	SPC				
Analyst:	SPC	Date Prep:	03.06.2021 14:30	% Moisture:	
Seq Number:	3152765			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.89**	5.00	mg/kg	03.06.2021 15:27		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM				
Analyst:	ARM	Date Prep:	03.05.2021 17:00	% Moisture:	
Seq Number:	3152841			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.06.2021 01:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.06.2021 01:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.06.2021 01:02	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.06.2021 01:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-130	03.06.2021 01:02	
o-Terphenyl	84-15-1	81	%	70-130	03.06.2021 01:02	

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Tetra Tech- Midland, Midland, TX

EOG-Lusk AHB

Sample Id:	**AH-1 (2.5'-3')**	Matrix:	Soil	Date Received:	03.05.2021 12:41
Lab Sample Id:	690614-003	Date Collected:	03.01.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	03.12.2021 12:00	% Moisture:	
Seq Number:	3153519			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.12.2021 17:34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.12.2021 17:34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.12.2021 17:34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.12.2021 17:34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.12.2021 17:34	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.12.2021 17:34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.12.2021 17:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.12.2021 17:34	
4-Bromofluorobenzene	460-00-4	98	%	70-130	03.12.2021 17:34	

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Certificate of Analytical Results 690614

Tetra Tech- Midland, Midland, TX

EOG-Lusk AHB

Sample Id:	**AH-1 (3.5'-4')**	Matrix:	Soil	Date Received:	03.05.2021 12:41
Lab Sample Id:	690614-004	Date Collected:	03.01.2021 00:00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	SPC				
Analyst:	SPC	Date Prep:	03.06.2021 14:30	% Moisture:	
Seq Number:	3152765			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.48**	5.00	mg/kg	03.06.2021 15:32		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM				
Analyst:	ARM	Date Prep:	03.05.2021 17:00	% Moisture:	
Seq Number:	3152841			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.06.2021 01:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	03.06.2021 01:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.06.2021 01:23	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.06.2021 01:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-130	03.06.2021 01:23	
o-Terphenyl	84-15-1	76	%	70-130	03.06.2021 01:23	

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Certificate of Analytical Results 690614

Tetra Tech- Midland, Midland, TX

EOG-Lusk AHB

Sample Id:	**AH-1 (3.5'-4')**	Matrix:	Soil	Date Received:	03.05.2021 12:41
Lab Sample Id:	690614-004	Date Collected:	03.01.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	KTL				
Analyst:	KTL	Date Prep:	03.12.2021 12:00	% Moisture:	
Seq Number:	3153519			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.12.2021 17:54	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.12.2021 17:54	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.12.2021 17:54	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	03.12.2021 17:54	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.12.2021 17:54	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.12.2021 17:54	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.12.2021 17:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	03.12.2021 17:54	
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.12.2021 17:54	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 690614

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Tetra Tech- Midland

EOG-Lusk AHB

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3152765 — Matrix: Solid — Date Prep: 03.06.2021
MB Sample Id: 7722685-1-BLK — LCS Sample Id: 7722685-1-BKS — LCSD Sample Id: 7722685-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	251	100	251	100	90-110	0	20	mg/kg	03.06.2021 14:32	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3152765 — Matrix: Soil — Date Prep: 03.06.2021
Parent Sample Id: 690433-008 — MS Sample Id: 690433-008 S — MSD Sample Id: 690433-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	117	248	361	98	361	98	90-110	0	20	mg/kg	03.06.2021 14:47	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3152765 — Matrix: Soil — Date Prep: 03.06.2021
Parent Sample Id: 690616-004 — MS Sample Id: 690616-004 S — MSD Sample Id: 690616-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.23	250	262	102	262	102	90-110	0	20	mg/kg	03.06.2021 15:57	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3152841 — Matrix: Solid — Date Prep: 03.05.2021
MB Sample Id: 7722739-1-BLK — LCS Sample Id: 7722739-1-BKS — LCSD Sample Id: 7722739-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1080	108	1140	114	70-130	5	20	mg/kg	03.05.2021 22:53	
Diesel Range Organics (DRO)	<50.0	1000	930	93	958	96	70-130	3	20	mg/kg	03.05.2021 22:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	82		90		94		70-130	%	03.05.2021 22:53
o-Terphenyl	74		86		87		70-130	%	03.05.2021 22:53

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3152841 — Matrix: Solid — Date Prep: 03.05.2021
MB Sample Id: 7722739-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.05.2021 22:31	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

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QC Summary 690614

Tetra Tech- Midland

EOG-Lusk AHB

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3152841 Matrix: Soil Date Prep: 03.05.2021
Parent Sample Id: 690614-001 MS Sample Id: 690614-001 S MSD Sample Id: 690614-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	1090	109	1120	112	70-130	3	20	mg/kg	03.05.2021 23:58	
Diesel Range Organics (DRO)	<49.9	997	938	94	974	98	70-130	4	20	mg/kg	03.05.2021 23:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		92		70-130	%	03.05.2021 23:58
o-Terphenyl	82		84		70-130	%	03.05.2021 23:58

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3153519 Matrix: Solid Date Prep: 03.12.2021
MB Sample Id: 7723198-1-BLK LCS Sample Id: 7723198-1-BKS LCSD Sample Id: 7723198-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0924	92	0.0920	92	70-130	0	35	mg/kg	03.12.2021 12:49	
Toluene	<0.00200	0.100	0.0883	88	0.0886	89	70-130	0	35	mg/kg	03.12.2021 12:49	
Ethylbenzene	<0.00200	0.100	0.0882	88	0.0884	88	70-130	0	35	mg/kg	03.12.2021 12:49	
m,p-Xylenes	<0.00400	0.200	0.179	90	0.179	90	70-130	0	35	mg/kg	03.12.2021 12:49	
o-Xylene	<0.00200	0.100	0.0995	100	0.0960	96	70-130	4	35	mg/kg	03.12.2021 12:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		102		103		70-130	%	03.12.2021 12:49
4-Bromofluorobenzene	92		95		97		70-130	%	03.12.2021 12:49

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3153519 Matrix: Soil Date Prep: 03.12.2021
Parent Sample Id: 690614-001 MS Sample Id: 690614-001 S MSD Sample Id: 690614-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0774	78	0.0827	83	70-130	7	35	mg/kg	03.12.2021 13:30	
Toluene	<0.00199	0.0996	0.0742	74	0.0789	79	70-130	6	35	mg/kg	03.12.2021 13:30	
Ethylbenzene	<0.00199	0.0996	0.0739	74	0.0792	80	70-130	7	35	mg/kg	03.12.2021 13:30	
m,p-Xylenes	<0.00398	0.199	0.149	75	0.160	80	70-130	7	35	mg/kg	03.12.2021 13:30	
o-Xylene	<0.00199	0.0996	0.0790	79	0.0845	85	70-130	7	35	mg/kg	03.12.2021 13:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		104		70-130	%	03.12.2021 13:30
4-Bromofluorobenzene	98		97		70-130	%	03.12.2021 13:30

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

lysis Request of Chain of Custody Record

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Page : 1 of 1

Tetra Tech, Inc.

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Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

t Name:	EOG	Site Manager:	Clair Gonzalez
ect Name:	Lusk AHB	Contact Info:	
ect Location: nty, state)	Lea County, NM	Project #:	212C-MD-02419 Task: 1400
ice to:	James Kennedy		
eiving Laboratory:	Xenco	Sampler Signature:	Devin. Dominguez
ments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: NONE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
	AH-1 (0-1')	03/01/21			X			X		1	N	X		X											X					
	AH-1 (1.5'-2')	03/01/21			X			X		1	N	X		X											X					
	AH-1 (2.5'-3')	03/01/21			X			X		1	N	X		X											X					
	AH-1 (3.5'-4')	03/01/21			X			X		1	N	X		X											X					

nquished by:	Date: 3-5-21	Time:	Received by: KRAMER
nquished by:	Date:	Time:	Received by: Date: 3/5/21 Time: 1941
nquished by:	Date:	Time:	Received by: Date: Time:

ORIGINAL COPY

LAB USE ONLY

Sample Temperature 1.5/2.0

REMARKS:

- [ ] Standard
- [X] RUSH: Same Day 24 hr. 48 hr. 72 hr.
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 03.05.2021 12.41.00 PM

Work Order #: 690614

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 03.05.2021
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 03.08.2021
Jessica Kramer

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

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

CONDITIONS

Action 56138

CONDITIONS

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 56138
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	10/28/2022