SITE INFORMATION

Report Type: Work Plan 1RP-4975

General Site Information:						
Site:	**Hound 30 Federal Water Line**					
Company:	**EOG Resources, Inc.**					
Section, Township and Range	**Unit L**	**Sec. 30**	**T 25S**	**R 34E**		
Lease Number:	**API No. 30-025-43574**					
County:	**Lea County**					
GPS:	**32.0998° N**			**103.5171° W**		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From the intersection of HWY 128 and CR 1, travel south on CR 1 for 10.4 miles, turn east onto lease road for 7.5 miles to Y in the road, take a left at the Y and continue for 2.8 miles, turn left and continue for 0.9 miles to location on the west side of the lease road.					

Release Data:	
Date Released:	2/18/2018
Type Release:	Produced Water
Source of Contamination:	Riser
Fluid Released:	75 bbls
Fluids Recovered:	10 bbls

Official Communication:			
Name:	Zane Kurtz		Ike Tavarez
Company:	EOG Resources		Tetra Tech
Address:	5509 Champions Drive		4000 N. Big Spring
			Ste 401
City:	Midland, TX 79706		Midland, Texas
Phone number:	(432) 425-2023		(432) 687-8110
Fax:			
Email:	zane_kurtz@eogresources.com		Ike.Tavarez@tetratech.com

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	10	
>100 ft.	***0***	*125'-150'*
WellHead Protection:	***Ranking Score***	***Site Data***
Water Source <1,000 ft., Private <200 ft.	*20*	
Water Source >1,000 ft., Private >200 ft.	***0***	*0*
Surface Body of Water:	***Ranking Score***	***Site Data***
<200 ft.	*20*	
200 ft - 1,000 ft.	10	
>1,000 ft.	***0***	*0*
Total Ranking Score:	***0***	

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	5,000

TETRA TECH

APPROVED
By Olivia Yu at 2:58 pm, May 07, 2018

April 23, 2018

NMOCD approves of the delineation completed for 1RP-4975. Confirmation sidewall and bottom samples no greater than 75 ft. apart.

Ms. Olivia Yu
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Work Plan for the EOG Resources, Hound 30 Federal Water Line, Unit L, Section 30, Township 25 South, Range 34 East, Lea County, New Mexico. 1RP-4975.

Ms. Yu:

Tetra Tech, Inc. (Tetra Tech) was contacted by EOG Resources, Inc. (EOG) to investigate and assess a release that occurred at the Hound 30 Federal Water Line, Unit L, Section 30, Township 25 South, Range 34 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.0998º, W 103.5171º. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the release was discovered on February 18, 2018, and released approximately seventy-five (75) barrels of produced water due to a failed gasket at the water transfer line riser. Approximately ten (10) barrels of produced water was recovered. The release occurred along the EOG pipeline right-of-way impacting an area measuring approximately 45' x 90, 20' x 90', and 20' x 165'. The initial C-141 form is included in Appendix A.

Groundwater

No wells are listed within Section 30 in the New Mexico Office of the State Engineers database, the USGS National Water Information System, or the Geology and Groundwater Conditions in Southern Lea County, NM (Report 6). However, the USGS National Water Information System lists a well in Section 29, approximately 1.45 miles southeast of the site, with a reported depth to water of 128' below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is between 125' and 150' below surface. The groundwater data is shown in Appendix B.

Tetra Tech
4000 North Big Spring, Suite 401, Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. 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 upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On February 27, 2018, Tetra Tech personnel were onsite to evaluate and sample the release area with backhoe. Six (6) sample trenches (T-1 through T-6) were installed in the spill footprint to total depths ranging from 10.0' and 14.0' below surface. The samples were analyzed for chlorides by EPA method 300.0. Copies of the laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The trench locations are shown in Figure 3.

Referring to Table 1, the sampling results showed a shallow chloride impact to the soils. The area of trench (T-1) showed a chloride high of 195 mg/kg at 0-1' below surface, which further declined with depth. The areas of trenches (T-2, T-3, T-4, T-5 and T-6) showed elevated chloride concentrations in the shallow soils (0-1') of 4,160 mg/kg, 3,960 mg/kg, 643 mg/kg, 7,220 mg/kg, and 2,230 mg/kg, respectively. The chloride concentrations in these areas declined with depth to below the 600 mg/kg threshold at 2.0' below surface. Additionally, none of the deeper samples collected showed any significant chloride concentrations to the soils.

Work Plan

Based on the laboratory results, EOG proposes to remove the impacted soils as shown on Figure 4 and highlighted (green) on Table 1. The areas of trenches (T-2, T-3, T-4, T-5, and T-6) will be excavated to approximately 1.0' to 2.0' below surface. The excavated areas will then be backfilled with clean material to surface grade. All of the excavated material will be transported offsite for proper disposal. Once excavated to the appropriate depth, confirmation samples will be collected to confirm proper removal of the impacted soils. The confirmation samples will be submitted to the laboratory for analysis of TPH method 8015 extended, BTEX method 8021B, and chlorides by EPA method 300.0

The proposed excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safely concerns for onsite personnel. As such, EOG will excavate the impacted soils to the maximum extent practicable.

TETRA TECH

Conclusion

Upon completion, a final report detailing the remediation activities will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call at (432) 682-4559.

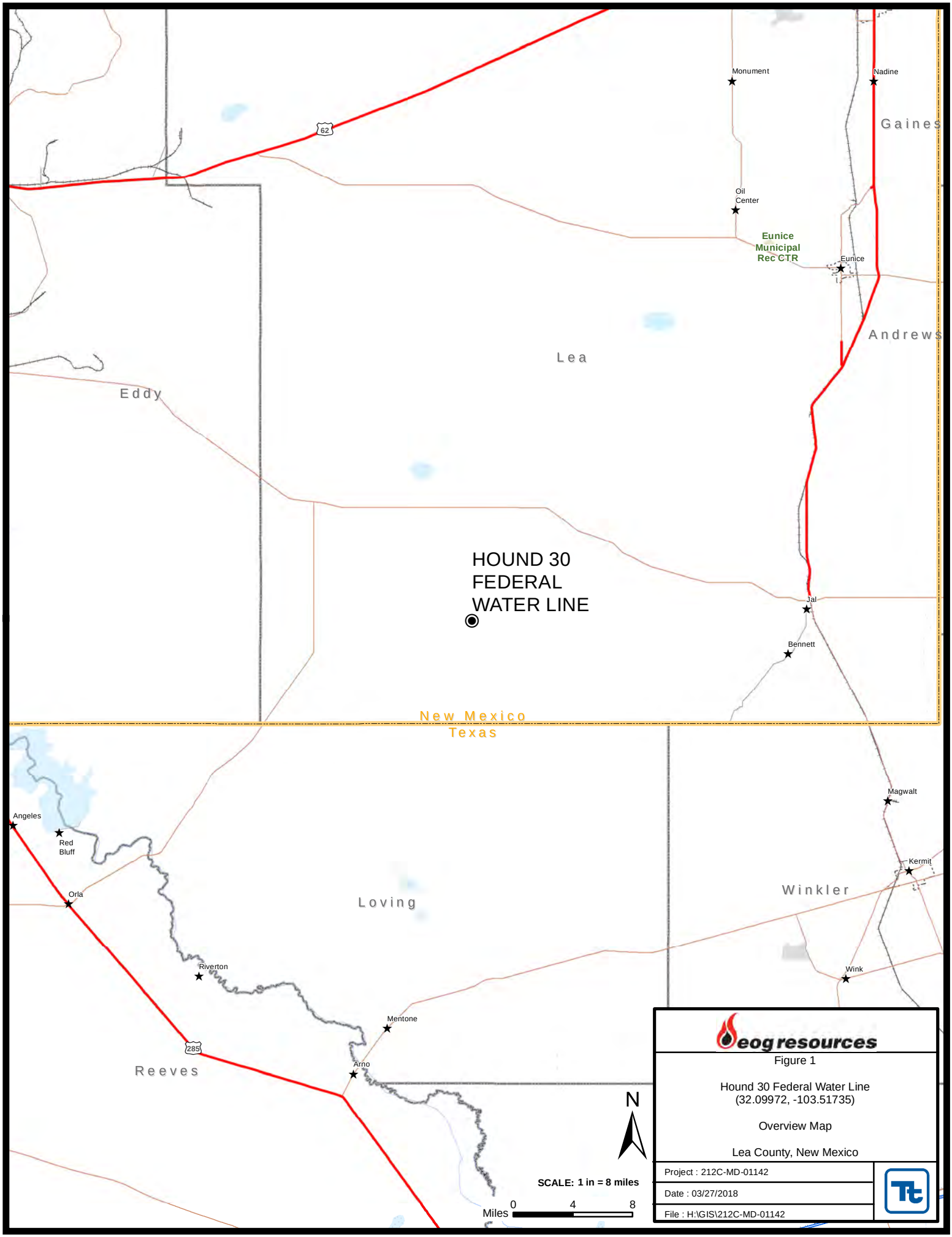
Respectfully submitted,
TETRA TECH

Clair Gonzales,
Project Manager

Ike Tavarez,
Senior Project Manager, P.G.

cc: Shelly Tucker - BLM
Henryetta Price - BLM

Figures



eog resources

Figure 1

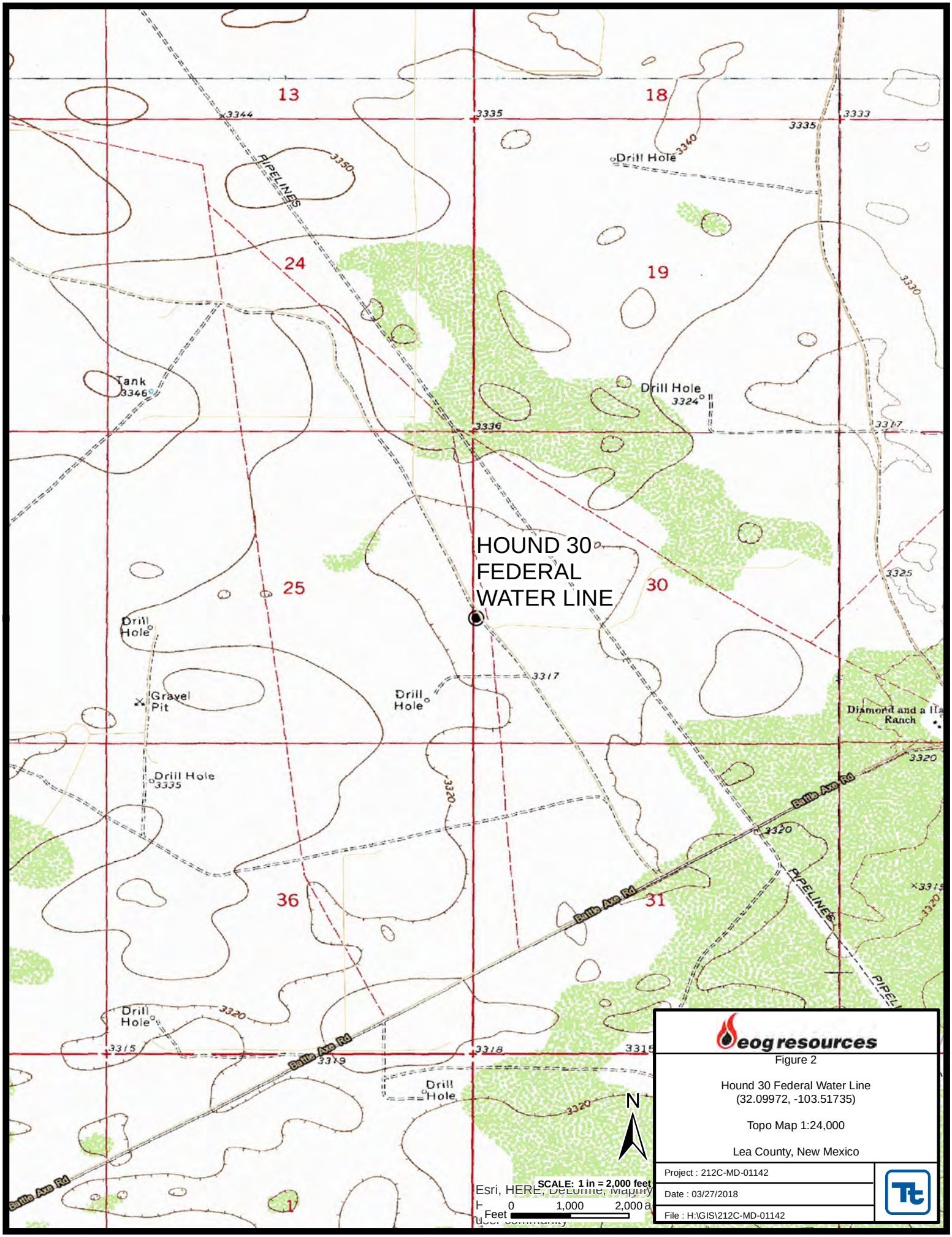
Hound 30 Federal Water Line
(32.09972, -103.51735)

Overview Map

Lea County, New Mexico

Project : 212C-MD-01142	
Date : 03/27/2018	
File : H:\GIS\212C-MD-01142	

Mapped By: Isabel Marmolejo



eog resources

Figure 2

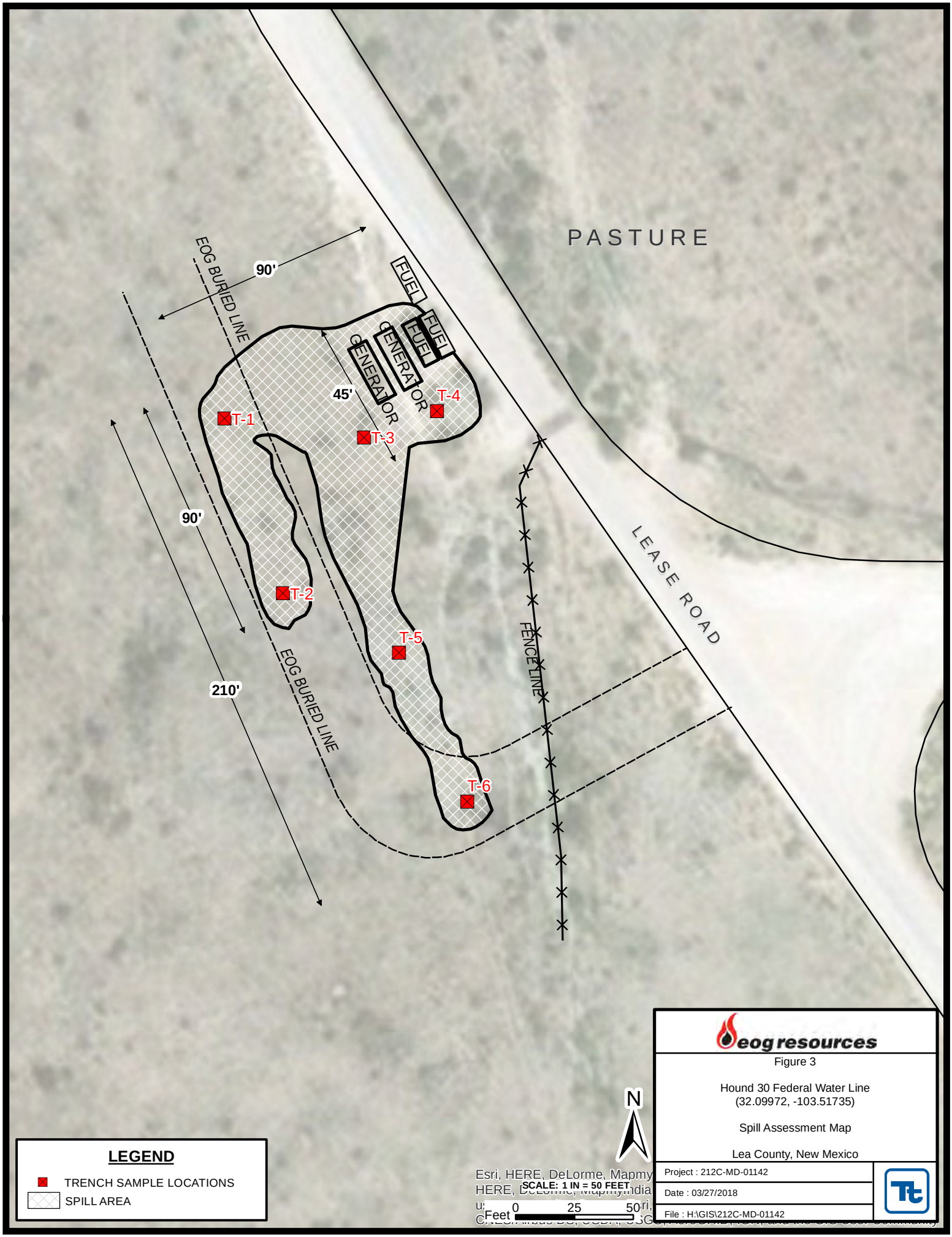
Hound 30 Federal Water Line
(32.09972, -103.51735)

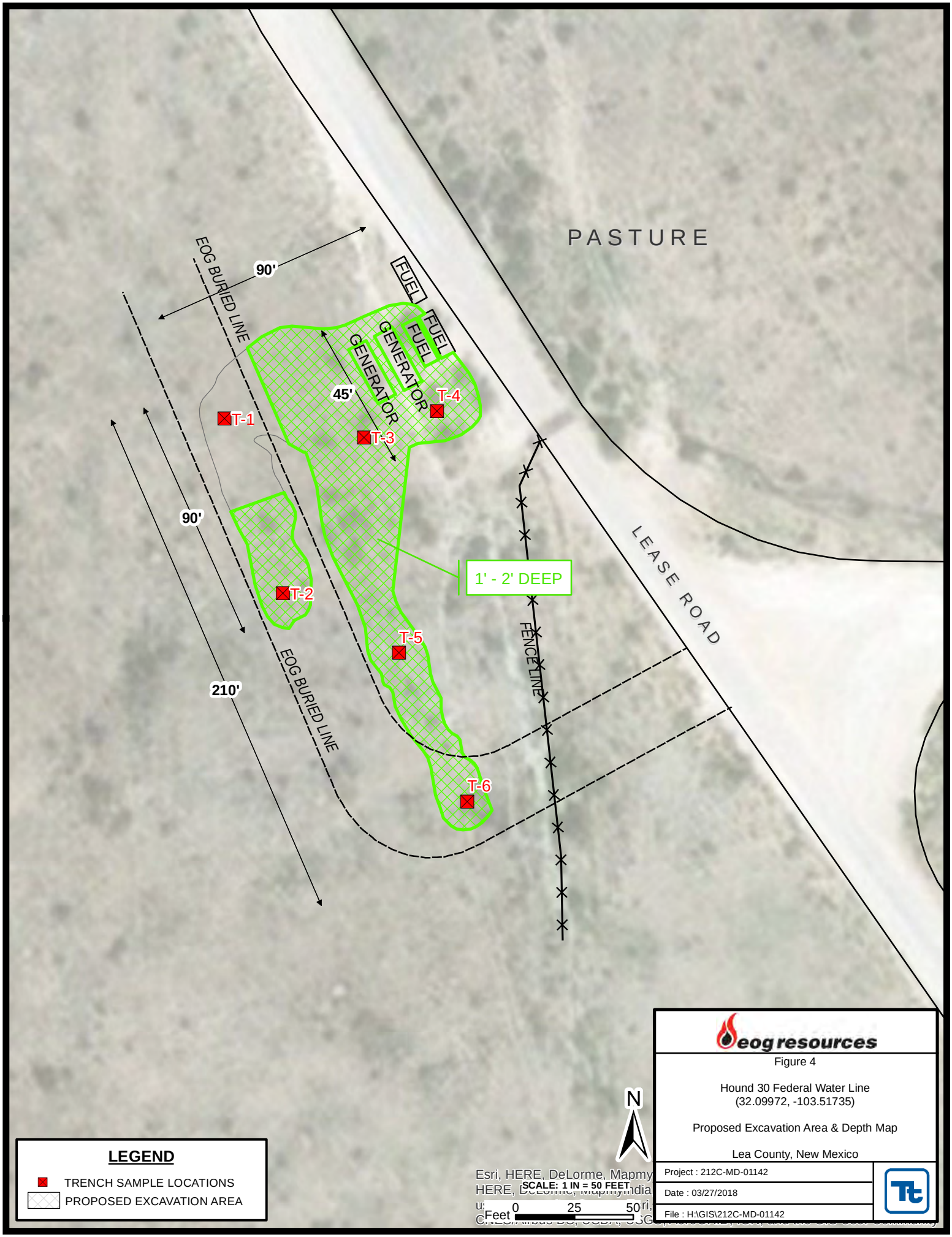
Topo Map 1:24,000

Lea County, New Mexico

Project : 212C-MD-01142	
Date : 03/27/2018	
File : H:\GIS\212C-MD-01142	

Mapped By: Isabel Marmolejo


PASTURE
LEASE ROAD
EOG BURIED LINE
EOG BURIED LINE
FENCE LINE
90'
90'
210'
45'
FUEL
FUEL
FUEL
GENERATOR
GENERATOR
T-1
T-2
T-3
T-4
T-5
T-6
N
SCALE: 1 IN = 50 FEET
0
25
50
Feet
LEGEND
TRENCH SAMPLE LOCATIONS
SPILL AREA
eog resources
Figure 3
Hound 30 Federal Water Line
(32.09972, -103.51735)
Spill Assessment Map
Lea County, New Mexico
Project : 212C-MD-01142
Date : 03/27/2018
File : H:\GIS\212C-MD-01142
Esri, HERE, DeLorme, Mapmy
HERE, DeLorme, MapmyIndia
Mapped By: Isabel Marmolejo


PASTURE
LEASE ROAD
EOG BURIED LINE
EOG BURIED LINE
FENCE LINE
90'
90'
210'
45'
FUEL
FUEL
FUEL
GENERATOR
GENERATOR
T-1
T-2
T-3
T-4
T-5
T-6
1' - 2' DEEP
N
LEGEND
TRENCH SAMPLE LOCATIONS
PROPOSED EXCAVATION AREA
SCALE: 1 IN = 50 FEET
0
25
50
Feet
Esri, HERE, DeLorme, Mapmy
HERE, DeLorme, MapmyIndia
eog resources
Figure 4
Hound 30 Federal Water Line
(32.09972, -103.51735)
Proposed Excavation Area & Depth Map
Lea County, New Mexico
Project : 212C-MD-01142
Date : 03/27/2018
File : H:\GIS\212C-MD-01142
Mapped By: Isabel Marmolejo

Tables

Table 1
EOG Resources
Hound 30 Federal Water Line
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		Chloride (mg/kg)
			In-Situ	Removed	
T-1	2/27/2018	0-1	X		195
	"	2	X		<4.95
	"	4	X		170
	"	6	X		<4.99
	"	8	X		<4.97
	"	10	X		<4.95
	"	12	X		<5.00
	"	14	X		<4.95
T-2	2/27/2018	0-1	X		**4,160**
	"	2	X		90.4
	"	4	X		11.2
	"	6	X		<4.99
	"	8	X		56.8
	"	10	X		106
	"	12	X		77.7
	"	14	X		<4.99
T-3	2/27/2018	0-1	X		**3,960**
	"	2	X		46.0
	"	4	X		<4.91
	"	6	X		272
	"	8	X		38.1
	"	10	X		51.9
T-4	2/27/2018	0-1	X		643
	"	2	X		113
	"	4	X		<4.92
	"	6	X		<5.00
	"	8	X		106
	"	10	X		67.4
T-5	2/27/2018	0-1	X		**7,220**
	"	2	X		227
	"	4	X		26.8
	"	6	X		<4.91
	"	8	X		12.4
	"	10	X		70.8
	"	12	X		27.7
	"	14	X		22.0
T-6	2/27/2018	0-1	X		**2,230**
	"	2	X		210
	"	4	X		<4.99
	"	6	X		<5.00
	"	8	X		<5.00
	"	10	X		<4.97
	"	12	X		75.9
	"	14	X		80.5

Photos

EOG Resources, Inc.
Hound 30 Federal Water Line
Lea County, New Mexico

View North - Area of T-1

View East – Area of T-2

EOG Resources, Inc.
Hound 30 Federal Water Line
Lea County, New Mexico

View East – Area of T-3

View South – Area of T-4

EOG Resources, Inc.
Hound 30 Federal Water Line
Lea County, New Mexico

View Northeast – Area of T-5

View Southwest – Area of T-6

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 - EOG Resources, Inc.	Contact Zane Kurtz
Address 5509 Champions Drive, Midland, TX 79706	Telephone No. 432-425-2023
Facility Name Hound 30 Fed Water Line	Facility Type Water Transfer Line

Surface Owner BLM	Mineral Owner Federal	API No. 30-025-43574

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	30	25S	34E					Lea

Latitude 32.0998 Longitude -103.5171

NATURE OF RELEASE

Type of Release Equipment Failure - Produced Water	Volume of Release 75 bbl	Volume Recovered 10 bbl
Source of Release Riser on a water transfer line	Date and Hour of Occurrence 2-18-2018 0630	Date and Hour of Discovery 2-19-2018 0800
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
NA

RECEIVED
By Olivia Yu at 3:29 pm, Feb 22, 2018

Describe Cause of Problem and Remedial Action Taken.*
Equipment failure on a water transfer line. A bad gasket between the poly line and the AVK valve. The water transfer line was isolated and the gasket was released. One call was placed and an initial assessment will be performed to collect soil samples and see the extent of the spill.

Describe Area Affected and Cleanup Action Taken.*

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: Zane Kurtz	Approved by Environmental Specialist:
Title: Sr. Environmental Rep.	Approval Date: 2/22/2018 Expiration Date:
E-mail Address: zane_kurtz@eogresources.com	Conditions of Approval: see attached directive Attached ☑
Date: 2-21-2018 Phone: 423-425-2023	

* Attach Additional Sheets If Necessary

1RP-4975 nOY1805356223

pOY1805356652

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
EOG - Hound 30 Federal Water Line
Lea County, New Mexico

24 South 33 East

6	5	4	3	2	1
7	8	9	10 **24.6**	11	12
18	17	16	15	14	13
19	20	21	22	23 **208**	24 **16.9**
30	29	28	27	26	25
31	32	33 **93.2**	34	35	36

24 South 34 East

6 **81**	5	4 **475**	3	2	1
7	8	9	10	11 **40**	12
18	17	16	15	14	13
19	20	21 **431**	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South 35 East

6	5	4	3	2	1
7	8	9	10 **300**	11	12
18	17	16	15	14	13
19	20 **97**	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South 33 East

6	5	4	3 172	2	1
7	8	9	10	11 140	12 200
18	17	16	15	14	13
19	20 **200**	21 120	22	23	24
30	29	28	27 125	26	25
31 **257**	32	33	34	35	36

25 South 34 East

6	5	4	3	2	1 **260**
7	8	9	10	11	12
18	17	16	15 **135**	14	13
19	20	21	22	23	24 **300**
30	29 **128** **50**	28	27	26	25
31	32	33	34	35	36

25 South 35 East

6	5 **165**	4	3 **108**	2	1
7	8	9	10	11	12
18 **230**	17	16	15	14	13
19	20	21 **218**	22	23	24
30 **80**	29	28	27	26	25
31	32	33	34	35	36

26 South 33 East

6	5	4	3 **175**	2	1
7	8	9	10	11 **145**	12 **200**
18	17	16	15	14 **135**	13
19	20	21 **120**	22	23	24
30	29	28	27 **125**	26	25
31	32	33	34	35	36

26 South 34 East

6 **160** **175**	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 35 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13 **230**
19	20	21	22	23	24 **250**
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

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		Depth Well	Depth Water	Water Column
C 02299		CUB	LE	4	4	2	24	25S	34E	649417	3554478*		350	300	50
C 02314			LE	2	4	2	15	25S	34E	646170	3556243*		175	135	40
C 02315			LE	2	4	2	15	25S	34E	646170	3556243*		175	135	40
C 02316			LE	3	4	3	29	25S	34E	642003	3551967*		100	50	50
C 02317			LE	3	4	3	29	25S	34E	642003	3551967*		100	50	50
C 02401			LE	2	2	1	01	25S	34E	648534	3559896*		275	260	15

Average Depth to Water: **155 feet**

Minimum Depth: **50 feet**

Maximum Depth: **300 feet**

Record Count: 6

PLSS Search:

Township: 25S **Range:** 34E

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

National Water Information System: Web Interface

Click to hideNews Bulletins

- Please see news on new formats
- Full News

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

site_no list =

- 320523103294401

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

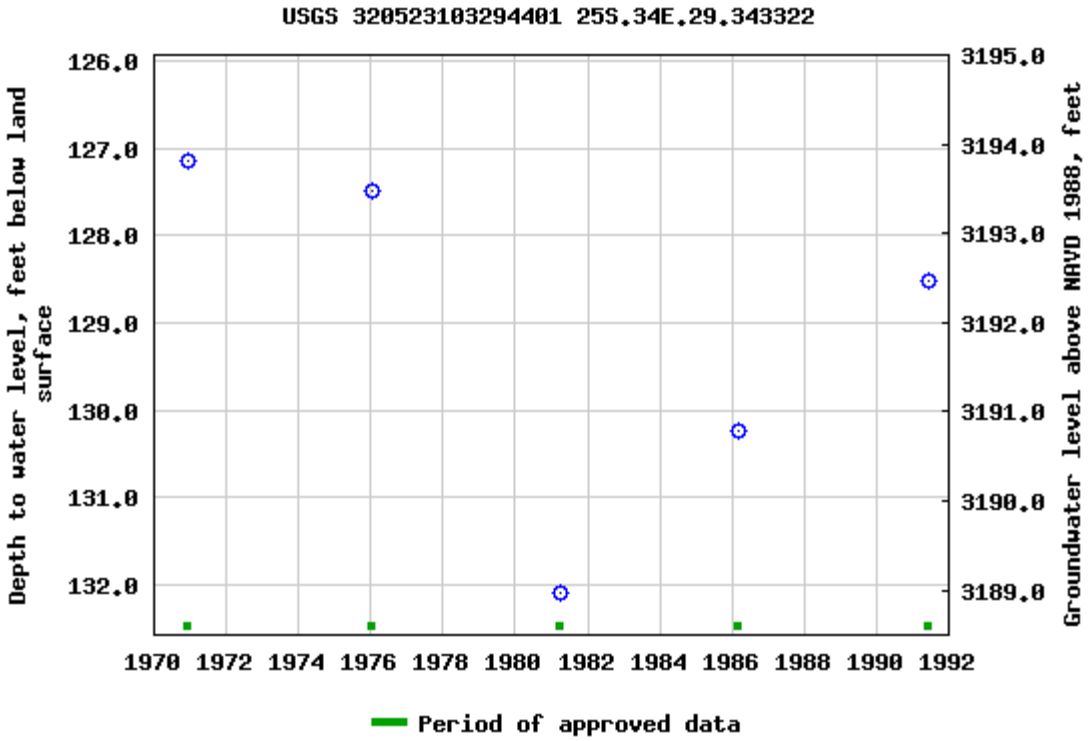
USGS 320523103294401 25S.34E.29.343322

Available data for this site Groundwater: Field measurements GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°05'23", Longitude 103°29'44" NAD27
Land-surface elevation 3,321 feet above NAVD88
The depth of the well is 165 feet below land surface.
This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Title: Groundwater for New Mexico: Water Levels
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2018-03-12 17:25:40 EDT
4.89 1.27 nadww01

Appendix C

Analytical Report 578097

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

Hound 30 Federal Water Line

12-MAR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

12-MAR-18

Project Manager: **Ike Tavarez**
Tetra Tech- Midland
4000 N. Big Spring Suite 401
Midland, TX 79705

Reference: XENCO Report No(s): **578097**
Hound 30 Federal Water Line
Project Address: Lea County NM

Ike Tavarez:

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 XENCO Report Number(s) 578097. 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 XENCO Laboratories. 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. 578097 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 XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 578097

Tetra Tech- Midland, Midland, TX

Hound 30 Federal Water Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 (0-1')	S	02-27-18 00:00		578097-001
T-1 (2')	S	02-27-18 00:00		578097-002
T-1 (4')	S	02-27-18 00:00		578097-003
T-1 (6')	S	02-27-18 00:00		578097-004
T-1 (8')	S	02-27-18 00:00		578097-005
T-1 (10')	S	02-27-18 00:00		578097-006
T-1 (12')	S	02-27-18 00:00		578097-007
T-1 (14')	S	02-27-18 00:00		578097-008
T-2 (0-1')	S	02-27-18 00:00		578097-009
T-2 (2')	S	02-27-18 00:00		578097-010
T-2 (4')	S	02-27-18 00:00		578097-011
T-2 (6')	S	02-27-18 00:00		578097-012
T-2 (8')	S	02-27-18 00:00		578097-013
T-2 (10')	S	02-27-18 00:00		578097-014
T-2 (12')	S	02-27-18 00:00		578097-015
T-3 (14')	S	02-27-18 00:00		578097-016
T-3 0-1')	S	02-27-18 00:00		578097-017
T-3 (2')	S	02-27-18 00:00		578097-018
T-3 (4')	S	02-27-18 00:00		578097-019
T-3 (6')	S	02-27-18 00:00		578097-020
T-3 (8')	S	02-27-18 00:00		578097-021
T-3 (10')	S	02-27-18 00:00		578097-022
T-4 (0-1')	S	02-27-18 00:00		578097-023
T-4 (2')	S	02-27-18 00:00		578097-024
T-4 (4')	S	02-27-18 00:00		578097-025
T-4 (6')	S	02-27-18 00:00		578097-026
T-4 (8')	S	02-27-18 00:00		578097-027
T-4 (10')	S	02-27-18 00:00		578097-028
T-5 (0-1')	S	02-27-18 00:00		578097-029
T-5 (2')	S	02-27-18 00:00		578097-030
T-5 (4')	S	02-27-18 00:00		578097-031
T-5 (6')	S	02-27-18 00:00		578097-032
T-5 (8')	S	02-27-18 00:00		578097-033
T-5 (10')	S	02-27-18 00:00		578097-034
T-5 (12')	S	02-27-18 00:00		578097-035
T-5 (14')	S	02-27-18 00:00		578097-036
T-6 (0-1')	S	02-27-18 00:00		578097-037
T-6 (2')	S	02-27-18 00:00		578097-038
T-6 (4')	S	02-27-18 00:00		578097-039
T-6 (6')	S	02-27-18 00:00		578097-040
T-6 (8')	S	02-27-18 00:00		578097-041
T-6 (10')	S	02-27-18 00:00		578097-042
T-6 (12')	S	02-27-18 00:00		578097-043

T-6 14')	S	02-27-18 00:00	578097-044

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3043411 Inorganic Anions by EPA 300/300.1

Lab Sample ID 578097-031 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 578097-021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036, -037, -038, -039, -040.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 578097

Tetra Tech- Midland, Midland, TX

Project Name: Hound 30 Federal Water Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Fri Mar-02-18 04:03 pm
Report Date: 12-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	578097-001		578097-002		578097-003		578097-004		578097-005		578097-006	
	Field Id:	T-1 (0-1')		T-1 (2')		T-1 (4')		T-1 (6')		T-1 (8')		T-1 (10')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00	
	Analyzed:	Mar-09-18 12:53		Mar-09-18 13:09		Mar-09-18 13:14		Mar-09-18 13:20		Mar-09-18 13:25		Mar-09-18 13:51	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		195	4.91	<4.92	4.92	170	4.95	<4.99	4.99	<4.97	4.97	<4.95	4.95

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 578097

Tetra Tech- Midland, Midland, TX

Project Name: Hound 30 Federal Water Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Fri Mar-02-18 04:03 pm
Report Date: 12-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	578097-007		578097-008		578097-009		578097-010		578097-011		578097-012	
	Field Id:	T-1 (12')		T-1 (14')		T-2 (0-1')		T-2 (2')		T-2 (4')		T-2 (6')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00	
	Analyzed:	Mar-09-18 13:56		Mar-09-18 14:02		Mar-09-18 14:07		Mar-09-18 14:12		Mar-09-18 14:18		Mar-09-18 14:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<5.00	5.00	<4.95	4.95	4160	25.0	90.4	4.95	11.2	4.99	<4.99	4.99

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 578097

Tetra Tech- Midland, Midland, TX

Project Name: Hound 30 Federal Water Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Fri Mar-02-18 04:03 pm
Report Date: 12-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	578097-013		578097-014		578097-015		578097-016		578097-017		578097-018	
	Field Id:	T-2 (8')		T-2 (10')		T-2 (12')		T-3 (14')		T-3 0-1')		T-3 (2')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 09:00	
	Analyzed:	Mar-09-18 15:01		Mar-09-18 15:07		Mar-09-18 15:12		Mar-09-18 15:17		Mar-09-18 15:23		Mar-09-18 15:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		56.8	5.00	106	4.99	77.7	4.95	<4.99	4.99	3960	24.9	46.0	4.95

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 578097

Tetra Tech- Midland, Midland, TX

Project Name: Hound 30 Federal Water Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Fri Mar-02-18 04:03 pm
Report Date: 12-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	578097-019		578097-020		578097-021		578097-022		578097-023		578097-024	
	Field Id:	T-3 (4')		T-3 (6')		T-3 (8')		T-3 (10')		T-4 (0-1')		T-4 (2')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-09-18 09:00		Mar-09-18 09:00		Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00	
	Analyzed:	Mar-09-18 15:33		Mar-09-18 15:39		Mar-09-18 20:13		Mar-09-18 20:29		Mar-09-18 20:34		Mar-09-18 20:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.91	4.91	272	4.95	38.1	4.98	51.9	4.94	643	4.98	113	4.98

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 578097

Tetra Tech- Midland, Midland, TX

Project Name: Hound 30 Federal Water Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Fri Mar-02-18 04:03 pm
Report Date: 12-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	578097-025		578097-026		578097-027		578097-028		578097-029		578097-030	
	Field Id:	T-4 (4')		T-4 (6')		T-4 (8')		T-4 (10')		T-5 (0-1')		T-5 (2')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00	
	Analyzed:	Mar-09-18 20:45		Mar-09-18 21:01		Mar-09-18 21:06		Mar-09-18 21:11		Mar-09-18 21:17		Mar-09-18 21:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.92	4.92	<5.00	5.00	106	4.94	67.4	4.96	7220	49.9	227	4.96

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 578097

Tetra Tech- Midland, Midland, TX

Project Name: Hound 30 Federal Water Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Fri Mar-02-18 04:03 pm
Report Date: 12-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	578097-031		578097-032		578097-033		578097-034		578097-035		578097-036	
	Field Id:	T-5 (4')		T-5 (6')		T-5 (8')		T-5 (10')		T-5 (12')		T-5 (14')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00	
	Analyzed:	Mar-09-18 21:27		Mar-09-18 21:43		Mar-09-18 21:49		Mar-09-18 22:04		Mar-09-18 22:10		Mar-09-18 22:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		26.8	4.97	<4.91	4.91	12.4	4.97	70.8	4.98	27.7	5.00	22.0	4.97

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 578097

Tetra Tech- Midland, Midland, TX

Project Name: Hound 30 Federal Water Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Fri Mar-02-18 04:03 pm
Report Date: 12-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	578097-037		578097-038		578097-039		578097-040		578097-041		578097-042	
	Field Id:	T-6 (0-1')		T-6 (2')		T-6 (4')		T-6 (6')		T-6 (8')		T-6 (10')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00		Feb-27-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 10:00		Mar-09-18 12:00		Mar-09-18 12:00	
	Analyzed:	Mar-09-18 22:20		Mar-09-18 22:26		Mar-09-18 22:31		Mar-09-18 22:36		Mar-09-18 23:08		Mar-10-18 00:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2230	25.0	210	4.99	<4.99	4.99	<5.00	5.00	<5.00	5.00	<4.97	4.97

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 578097

Tetra Tech- Midland, Midland, TX

Project Name: Hound 30 Federal Water Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Fri Mar-02-18 04:03 pm
Report Date: 12-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	578097-043		578097-044					
	Field Id:	T-6 (12')		T-6 14')					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Feb-27-18 00:00		Feb-27-18 00:00					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-09-18 12:00		Mar-09-18 12:00					
	Analyzed:	Mar-09-18 23:24		Mar-09-18 23:29					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		75.9	4.97	80.5	4.93				

Kelsey Brooks
Project Manager

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.

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

BS / BSD Recoveries

Project Name: Hound 30 Federal Water Line

Work Order #: 578097 **Project ID:**

Analyst: OJS **Date Prepared:** 03/09/2018 **Date Analyzed:** 03/09/2018

Lab Batch ID: 3043405 **Sample:** 7640570-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	240	96	250	233	93	3	90-110	20	

Analyst: OJS **Date Prepared:** 03/09/2018 **Date Analyzed:** 03/09/2018

Lab Batch ID: 3043411 **Sample:** 7640572-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	258	103	250	248	99	4	90-110	20	

Analyst: OJS **Date Prepared:** 03/09/2018 **Date Analyzed:** 03/09/2018

Lab Batch ID: 3043417 **Sample:** 7640573-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	256	102	250	257	103	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: Hound 30 Federal Water Line

Work Order # : 578097 **Project ID:**

Lab Batch ID: 3043405 **QC- Sample ID:** 578097-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/09/2018 **Date Prepared:** 03/09/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	195	246	447	102	246	444	101	1	90-110	20	

Lab Batch ID: 3043405 **QC- Sample ID:** 578097-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/09/2018 **Date Prepared:** 03/09/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	11.2	250	286	110	250	284	109	1	90-110	20	

Lab Batch ID: 3043411 **QC- Sample ID:** 578097-021 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/09/2018 **Date Prepared:** 03/09/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	38.1	249	317	112	249	317	112	0	90-110	20	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: Hound 30 Federal Water Line

Work Order # : 578097 **Project ID:**

Lab Batch ID: 3043411 **QC- Sample ID:** 578097-031 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/09/2018 **Date Prepared:** 03/09/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	26.8	249	302	111	249	306	112	1	90-110	20	X

Lab Batch ID: 3043417 **QC- Sample ID:** 578097-041 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/09/2018 **Date Prepared:** 03/09/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	274	110	250	273	109	0	90-110	20	

Lab Batch ID: 3043417 **QC- Sample ID:** 578097-042 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/10/2018 **Date Prepared:** 03/09/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<4.97	249	268	108	249	269	108	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record

5780097

Page 1 of 5

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: EOG	**Site Manager:** Ike Tavarez
Project Name: Hound 30 Federal Water Line	
Project Location: (county, state) Lea County, New Mexico	**Project #:** Pending
Invoice to: Tetra Tech, Inc.	
Receiving Laboratory: Xenco Midland Tx	**Sampler Signature:** Mike Carmona
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				
	T-1 (0-1')	2/27/2018			X					X		1	N														X								
	T-1 (2')	2/27/2018			X					X		1	N														X								
	T-1 (4')	2/27/2018			X					X		1	N														X								
	T-1 (6')	2/27/2018			X					X		1	N														X								
	T-1 (8')	2/27/2018			X					X		1	N														X								
	T-1 (10')	2/27/2018			X					X		1	N														X								
	T-1 (12')	2/27/2018			X					X		1	N														X								
	T-1 (14')	2/27/2018			X					X		1	N														X								
	T-2 (0-1')	2/27/2018			X					X		1	N														X								
	T-2 (2')	2/27/2018			X					X		1	N														X								

Relinquished by: mika Cmona	Date: 3-2-18	Time:	Received by:
Relinquished by:	Date:	Time:	Received by: 3/2/18 403 Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature

(Circle) HAND DEL

REMARKS:

[X] STANDARD

[ ] RUSH: Same Day 24 hr 48 hr 72 hr

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

Temp: 5.3 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 5.1

ORIGINAL COPY

Final 1.000

Hold

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Analysis Request of Chain of Custody Record

578097

Page 2 of 5

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: EOG

Site Manager: Ike Tavarez

Project Name: Hound 30 Federal Water Line

Project Location: (county, state) Lea County, New Mexico

Project #: Pending

Invoice to: Tetra Tech, Inc.

Receiving Laboratory: Xenco Midland Tx

Sampler Signature: Mike Carmona

Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
	T-2 (4')	2/27/2018			X					X		1	N															X						
	T-2 (6')	2/27/2018			X					X		1	N															X						
	T-2 (8')	2/27/2018			X					X		1	N															X						
	T-2 (10')	2/27/2018			X					X		1	N															X						
	T-2 (12')	2/27/2018			X					X		1	N															X						
	T-2 (14')	2/27/2018			X					X		1	N															X						
	T-3 (0-1')	2/27/2018			X					X		1	N															X						
	T-3 (2')	2/27/2018			X					X		1	N															X						
	T-3 (4')	2/27/2018			X					X		1	N															X						
	T-3 (6')	2/27/2018			X					X		1	N															X						

ANALYSIS REQUEST
(Circle or Specify Method No.)

Final 1.000

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Relinquished by: Mike Carmona Date: 3-2-18 Time:

Received by: Date: 3/2/18 Time: 403

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

(Circle) HAND DELIVERED

REMARKS:

[X] STANDARD

[ ] RUSH: Same Day 24 hr 48 hr 72 hr

[ ] Rush Charges Authorized

Temp: 5.3 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 5.1

ORIGINAL COPY

Analysis Request of Chain of Custody Record

578097

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: EOG	**Site Manager:** Ike Tavarez
Project Name: Hound 30 Federal Water Line	
Project Location: (county, state) Lea County, New Mexico	**Project #:**
Invoice to: Tetra Tech, Inc.	
Receiving Laboratory: Xenco Midland Tx	**Sampler Signature:** Mike Carmona
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)
	T-3 (8')	2/27/2018			X					X		1	N
	T-3 (10')	2/27/2018			X					X		1	N
	T-4 (0-1')	2/27/2018			X					X		1	N
	T-4 (2')	2/27/2018			X					X		1	N
	T-4 (4')	2/27/2018			X					X		1	N
	T-4 (6')	2/27/2018			X					X		1	N
	T-4 (8')	2/27/2018			X					X		1	N
	T-4 (10')	2/27/2018			X					X		1	N
	T-5 (0-1')	2/27/2018			X					X		1	N
	T-5 (2')	2/27/2018			X					X		1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

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	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
														X							
														X							
														X							
														X							
														X							
														X							
														X							
														X							
														X							
														X							
														X							

Final 1.000

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Relinquished by: Mike Carmona Date: 3-2-18 Time:

Received by: Date: 3/2/18 Time: 403

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

(Circle) HAND DELIVERED FEDEX UPS Tracking #

REMARKS:

[X] STANDARD

[ ] RUSH: Same Day 24 hr 48 hr 72 hr

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

Temp: 5.3 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 5.1

ORIGINAL COPY

Analysis Request of Chain of Custody Record

578097

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Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: EOG

Site Manager: Ike Tavarez

Project Name: Hound 30 Federal Water Line

Project Location: (county, state) Lea County, New Mexico

Project #:

Invoice to: Tetra Tech, Inc.

Receiving Laboratory: Xenco Midland Tx

Sampler Signature: Mike Carmona

Comments:

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 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	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
	T-5 (4')	2/27/2018			X				X	1	N														X								
	T-5 (6')	2/27/2018			X				X	1	N														X								
	T-5 (8')	2/27/2018			X				X	1	N														X								
	T-5 (10')	2/27/2018			X				X	1	N														X								
	T-5 (12')	2/27/2018			X				X	1	N														X								
	T-5 (14')	2/27/2018			X				X	1	N														X								
	T-6 (0-1')	2/27/2018			X				X	1	N														X								
	T-6 (2')	2/27/2018			X				X	1	N														X								
	T-6 (4')	2/27/2018			X				X	1	N														X								
	T-6 (6')	2/27/2018			X				X	1	N														X								

Relinquished by: Mike Carmona Date: 3-2-18 Time:

Received by: Date: 3/2/18 Time: 405

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

(Circle) HAND DELI

REMARKS:

[X] STANDARD

[ ] RUSH: Same Day 24 hr 48 hr 72 hr

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

Temp: 5.3 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C) 5.1

Corrected Temp:

ORIGINAL COPY

Final 1.000

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Analysis Request of Chain of Custody Record

578097 Page 5 of 5

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: EOG	Site Manager: Ike Tavarez
Project Name: Hound 30 Federal Water Line	
Project Location: (county, state) Lea County, New Mexico	Project #:
Invoice to: Tetra Tech, Inc.	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature: Mike Carmona
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)
	T-6 (8')	2/27/2018			X					X		1	N
	T-6 (10')	2/27/2018			X					X		1	N
	T-6 (12')	2/27/2018			X					X		1	N
	T-6 (14')	2/27/2018			X					X		1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

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	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance			Hold
															X						
															X						
															X						
															X						
															X						

Relinquished by: Mike Carmona Date: 3-2-18 Time:
Received by: Date: 3/2/18 Time: 405

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

LAB USE ONLY
Sample Temperature

REMARKS:
[X] STANDARD
[ ] RUSH: Same Day 24 hr 48 hr 72 hr
[ ] Rush Charges Authorized

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

Temp: 5.3 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.1

ORIGINAL COPY

Final 1.000

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 03/02/2018 04:03:00 PM

Work Order #: 578097

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.1
#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: Jessica Kramer Date: 03/04/2018
Jessica Kramer

Checklist reviewed by: Kelsey Brooks Date: 03/05/2018
Kelsey Brooks