SITE INFORMATION

Report Type: Closure Report 1RP-4745

General Site Information:						
Site:	**Beowulf 33 State Com 601H**					
Company:	**EOG Resources**					
Section, Township and Range	**Unit N**	**Sec. 33**	**T 23S**	**R 35E**		
Lease Number:	**API No. 30-025-435310000**					
County:	**Lea County**					
GPS:	**32.2551º N**			**103.3752º W**		
Surface Owner:	NM State Lands					
Mineral Owner:	NM State Lands					
Directions:	From the Intersection of Hwy 128 and Hwy 18 Head West until Deleware Basin Road, Turn Rt., and go approx. 14M and turn Rt into lease road, Go South approx. 5m and then go East .25M and arrive on location					

Release Data:	
Date Released:	6/28/2017
Type Release:	Produced Water
Source of Contamination:	Water Truck
Fluid Released:	130 bbls
Fluids Recovered:	0bbls

Official Communication:			
Name:	Jamon Hohensee		Ike Tavarez
Company:	EOG Resources		Tetra Tech
Address:	5509 Champions Dr		4000 N. Big Spring
			Ste 401
City:	Midland Texas, 79706		Midland, Texas
Phone number:	(432) 556-8074		(432) 687-8110
Fax:			
Email:	jamon_hohensee@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***	*275'*
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

September 15, 2017

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

Re: Closure Report for the EOG Resources, Beowulf 33 State Com 601H, Unit N, Section 33, Township 23 South, Range 35 East, Lea County, New Mexico. 1RP-4745

Ms. Yu:

Tetra Tech, Inc. (Tetra Tech) was contacted by EOG Resources to assess and remediate a spill that occurred at the Beowulf 33 State Com 601H, Unit N, Section 33, Township 23 South, Range 35 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.2551º, W 103.3752º. The site location is shown on Figures 1 and 2.

Background

On June 28, 2016, a produced water release occurred at the site due to an illegal dump located behind the facility in the adjacent pasture. Approximately one hundred and thirty (130) barrels of produced water was released and none of the fluids were recovered. The release occurred in the pasture and migrated onto a proposed pipeline right-of-way area. The spill impacted an area measuring approximately 180' x 40', 190' x 5' and 50' x 50'. The initial C-141 form is included in Appendix A. The release areas are shown on Figure 3.

Groundwater

No water wells were listed within Section 33 on the New Mexico Office of the State Engineer database. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in this area is around 275' 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

Soil Sampling

On July 10, 2017, Tetra Tech personnel were onsite to inspect and sample the spill area. A total of seven (7) sample trenches (T-1 through T-7) were installed to total depths ranging from 1.0' to 14.0' below surface using a backhoe. The samples were field screened for salinity using an ExStick II EC400 meter. Selected 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 C. The sampling results are summarized in Table 1. The trench locations are shown on Figure 3.

Pipeline Right-of-Way

During the site inspection, field personnel noted that the release footprint was along a marked proposed pipeline right-of-way for Lucid Energy. Lucid Energy was contacted and stated that the proposed line was scheduled to be installed the following week. Due to timing of the installation, the removal of the shallow impacted soil along the right-of-way area was performed on July 11-12, 2017. The excavation and sampling details are summarized in the Remediation Section in the report.

Sample Analysis and Results

Referring to Table 1, none of the collected samples exceeded the RRALs for TPH, benzene or total BTEX.

The chlorides detected showed a shallow impact to the subsurface soils. The areas of trenches (T-1, T-2 and T-3) showed concentrations that declined at 2.0' below surface, with chloride concentrations of 16.4 mg/kg, 6.01 mg/kg and 67.3 mg/kg, respectively. The areas of trenches (T-4, T-5 and T-6) showed a slightly deeper impact to the soils, which declined at a depth of approximately 3'-4' below surface. The area of trench (T-5) showed a chloride spike of 3,010 mg/kg at 8.0' below surface, which then declined at 10.0' to 302 mg/kg. The chloride spike appears to be sloughing of the upper soil that cross-contaminated the deeper sample. Trench (T-7) showed a shallow impact to soil declining to 42.8 mg/kg at 2.0' below surface.

TETRA TECH

Soil Remediation and Confirmation Sampling

The excavation areas and depths are highlighted (green) in Table 1 and shown on Figure 4. One excavated to the appropriate depths, Tetra Tech collected confirmation samples from the area. The confirmation samples are shown in Table 2. Approximately 775 cubic yards were removed from the area and stockpiled onsite pending disposal. The excavated areas were backfield with clean material to surface grade.

Tetra Tech supervised the initial remediation of the release area along the proposed pipeline right-of-way on July 11 and 12, 2017. These excavated areas encompassed trenches (T-1, T-2, T-3 and T-6). The areas of trenches (T-1, T-2, and T-3) were excavated to a depth of 1.5' below surface area and measured approximately 180' x 40'. The area of trench (T-6) was excavated to a depth of 3.0' and measured an area of approximately 50' x 50'. Once removed to appropriate depths, Tetra Tech collected bottom hole and sidewall samples to confirm the impacted soil was properly removed.

After the installation of the pipeline was completed, Tetra Tech returned to the site on August 28, 2017 to complete the remediation for the areas of trenches (T-4, T-5 and T-7). The areas of trenches (T-4 and T-5) were excavated to depths of 3.0' and the area of trench (T-7) was excavated to 2.0' below surface, measuring approximately 190' x 5'. For additional confirmation, the area of trench (T-5) was re-trenched at a depth of 8.0' to collect an additional sample and to confirm the chloride spike at that depth. Referring to Table 1, the chloride showed a concentration of <4.96 mg/kg, which confirmed the sample was cross-contaminated by the upper soils.

Conclusion and Recommendations

Based on the remediation work performed, EOG Resources requests closure of this spill issue. The final C-141 is shown in Appendix A. If you have any questions or comments concerning the assessment or remediation activities for this site, please call me at (432) 682-4559.

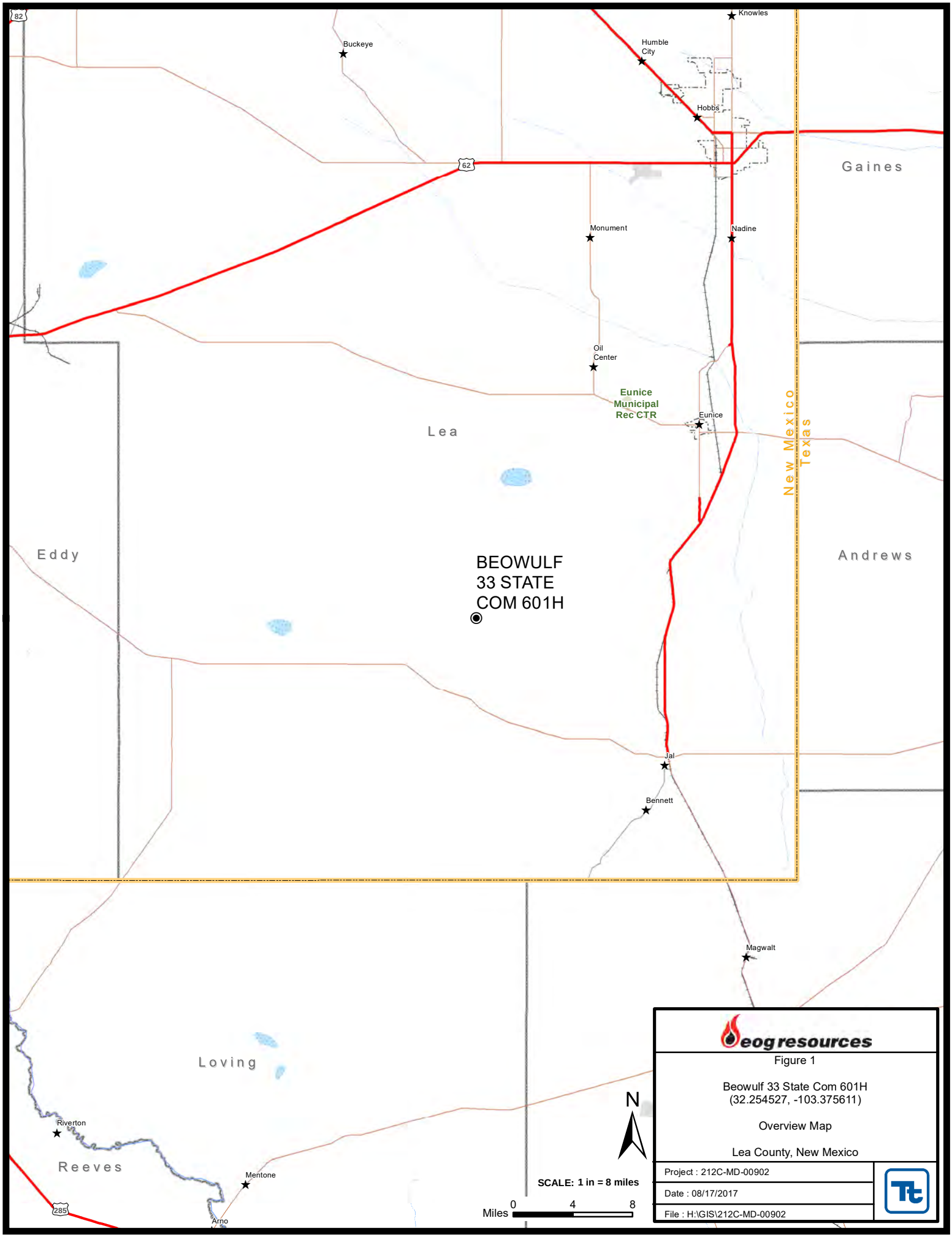
Respectfully submitted,
TETRA TECH

Clair Gonzales,
Geologist I

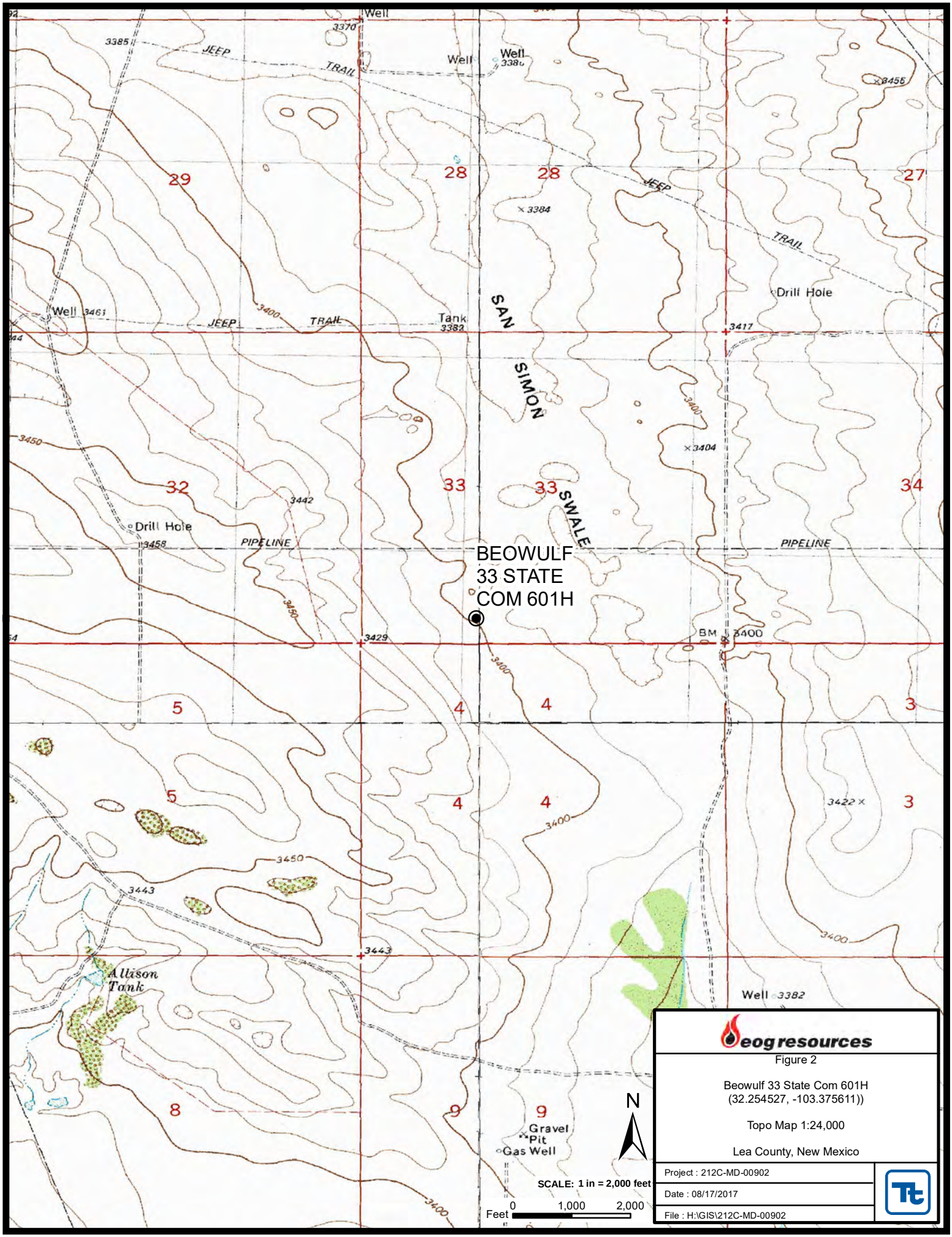
Ike Tavarez,
Senior Project Manager, P.G.

EOG – Jamon Hohensee
EOG – Zane Kurtz
SLO – Amber Groves

Figures



Mapped By: Isabel Marmolejo



eog resources

Figure 2

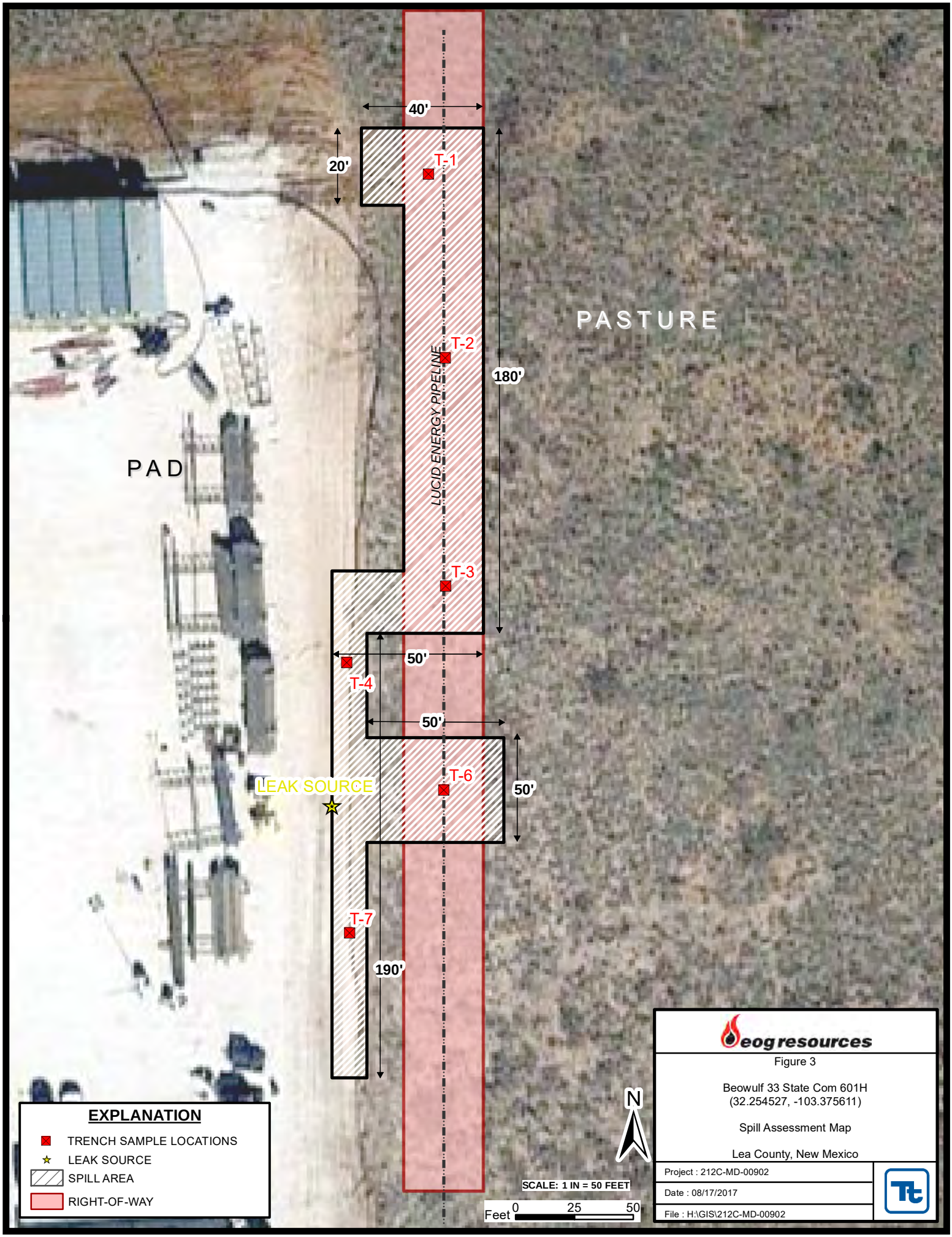
Beowulf 33 State Com 601H
(32.254527, -103.375611))

Topo Map 1:24,000

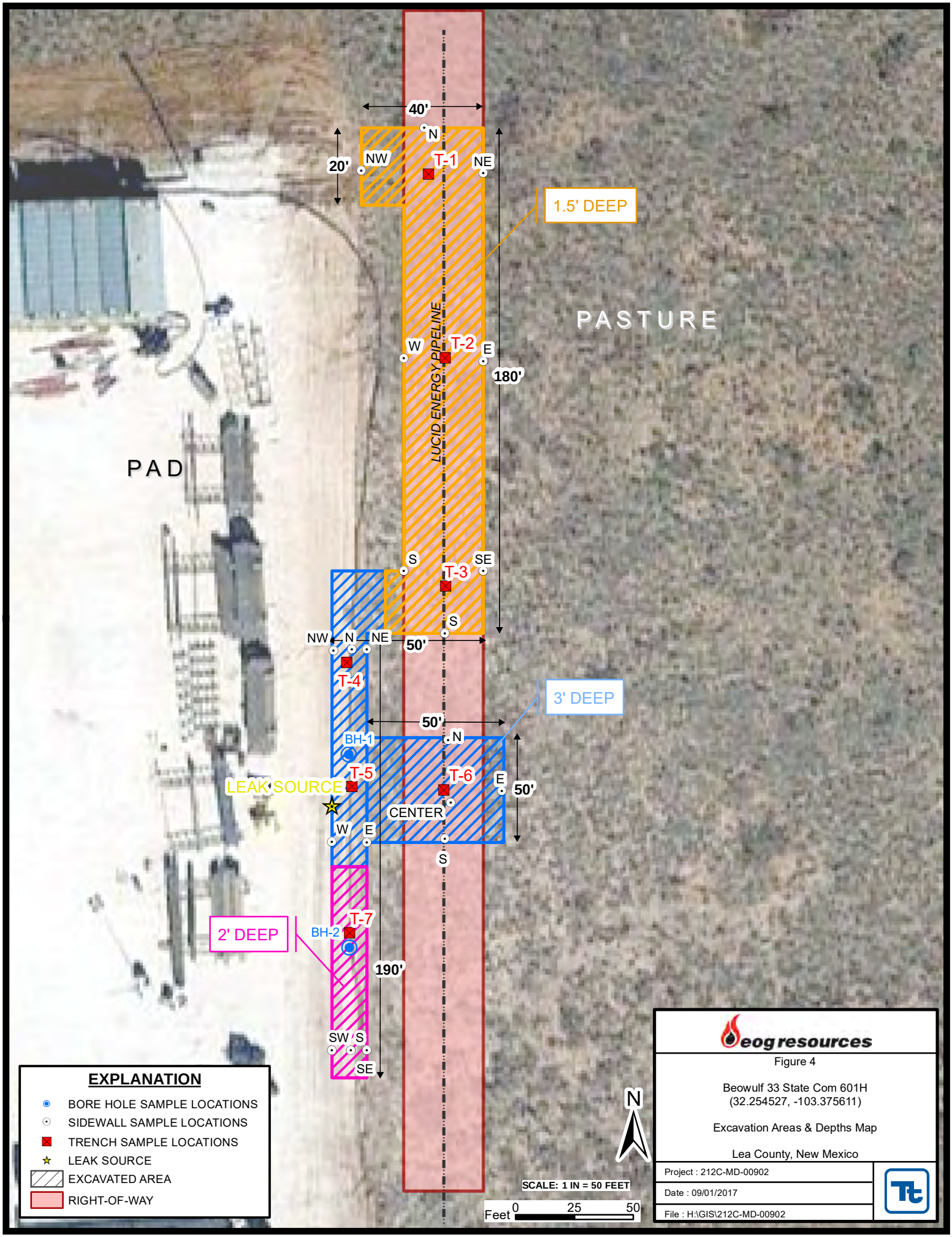
Lea County, New Mexico

Project : 212C-MD-00902	
Date : 08/17/2017	
File : H:\GIS\212C-MD-00902	

Mapped By: Isabel Marmolejo



Mapped By: Isabel Marmolejo



Mapped By: Isabel Marmolejo

Tables

Table 1
EOG Resources
Beowulf 33 State Commingle 601H
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	ORO	Total						
Trench #1	7/10/2017	0-1		X	<15.0	21.2	<15.0	21.2	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	1,540
	"	2	X		-	-	-	-	-	-	-	-	-	16.4
	"	4	X		-	-	-	-	-	-	-	-	-	17.9
	"	6	X		-	-	-	-	-	-	-	-	-	18.4
	"	8	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	107
Trench #2	7/10/2017	0-1		X	<15.0	<15.0	<15.0	<15.0	<0.00351	<0.00351	<0.00351	<0.00351	<0.00351	781
	"	1		X	-	-	-	-	-	-	-	-	-	1,150
	"	2	X		-	-	-	-	-	-	-	-	-	6.01
	"	4	X		-	-	-	-	-	-	-	-	-	6.13
	"	6	X		-	-	-	-	-	-	-	-	-	<5.00
	"	8	X		<14.9	<14.9	<14.9	<14.9	<0.00344	<0.00344	<0.00344	<0.00344	<0.00344	14.3
Trench #3	7/10/2017	0-1		X	<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	2,600
	"	1		X	-	-	-	-	-	-	-	-	-	2,750
	"	2	X		-	-	-	-	-	-	-	-	-	67.3
	"	4	X		-	-	-	-	-	-	-	-	-	7.90
	"	6	X		-	-	-	-	-	-	-	-	-	6.39
	"	8	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	11.8
Trench #4	7/10/2017	0-1		X	<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	3,830
	"	1		X	-	-	-	-	-	-	-	-	-	3,080
	"	2		X	-	-	-	-	-	-	-	-	-	1,380
	"	4	X		-	-	-	-	-	-	-	-	-	252
	"	6	X		-	-	-	-	-	-	-	-	-	35.9
	"	8	X		-	-	-	-	-	-	-	-	-	108
	"	10	X		<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	26.8

Table 1
EOG Resources
Beowulf 33 State Commingle 601H
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	ORO	Total						
Trench #5	7/10/2017	0-1		X	<15.0	187	<15.0	187	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	5,030
	"	1		X	-	-	-	-	-	-	-	-	-	3,370
	"	2		X	-	-	-	-	-	-	-	-	-	2,340
	"	4	X		-	-	-	-	-	-	-	-	-	875
	"	6	X		-	-	-	-	-	-	-	-	-	399
	"	**8**	X		-	-	-	-	-	-	-	-	-	**3,010**
	"	10	X		-	-	-	-	-	-	-	-	-	302
	"	12	X		-	-	-	-	-	-	-	-	-	568
	"	14	X		<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	98.5
Trench #5	8/28/2017	8	X		-	-	-	-	-	-	-	-	-	<4.96
Trench #6	7/10/2017	0-1	X		<14.9	<14.9	<14.9	<14.9	<0.00337	<0.00337	<0.00337	<0.00337	<0.00337	2,030
	"	1	X		-	-	-	-	-	-	-	-	-	1,780
	"	2	X		-	-	-	-	-	-	-	-	-	1,070
	"	4	X		-	-	-	-	-	-	-	-	-	234
	"	6	X		-	-	-	-	-	-	-	-	-	7.30
	"	8	X		-	-	-	-	-	-	-	-	-	9.67
	"	10	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	9.98
Trench #7	7/10/2017	0-1	X		<15.0	66.0	<15.0	66.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	1,200
	"	1	X		-	-	-	-	-	-	-	-	-	1,200
	"	2	X		-	-	-	-	-	-	-	-	-	42.8
	"	4	X		-	-	-	-	-	-	-	-	-	10.4
	"	6	X		-	-	-	-	-	-	-	-	-	6.32
	"	8	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	44.0

(-) Not Analyzed

(EB) Excavation Bottom

Areas Excavated and Removed

212C-MD-00902
Xenco Labs

Table 2
EOG Resources
Beowulf 33 State Commingle 601H
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	EB Sample Depth (ft)	Soil Status		Chloride (mg/kg)
				In-Situ	Removed	
Area T-6						
Center	7/11/2017	-	3	X		<4.96
South Sidewall	7/11/2017	-	-	X		13.2
North Sidewall	7/11/2017	-	-	X		5.22
East Sidewall	7/11/2017	-	-	X		14.3
Areas of T1, T2 and T3						
South East Sidewall	7/12/2017	-	-	X		56.7
South West Sidewall	7/12/2017	-	-	X		<4.97
North West Sidewall	7/12/2017	-	-	X		12.8
North East Sidewall	7/12/2017	-	-	X		14.6
East Sidewall	7/12/2017	-	-	X		69.0
West Sidewall	7/12/2017	-	-	X		6.43
South Bottomhole	7/12/2017	1.5	1.5	X		10.7
Center Bottomhole	7/12/2017	1.5	1.5	X		8.29
North Bottomhole	7/12/2017	1.5	1.5	X		251
Areas of T4, T5 and T7						
North Bottom Hole	8/28/2017	3	3	X		22.1
North West Sidewall	8/28/2017	-	-	X		<4.98
North East Sidewall	8/28/2017	-	-	X		<4.98
Bottom Hole #1	8/28/2017	3	3	X		64.9
Bottom Hole #2	8/28/2017	2	2	X		<4.90
South Bottom Hole	8/28/2017	2	2	X		<4.90
South West Sidewall	8/28/2017	-	-	X		<4.92
South East Sidewall	8/28/2017	-	-	X		62.2
West Sidewall	8/28/2017	-	-	X		18.1
East Sidewall	8/28/2017	-	-	X		<4.99

(-) Not Analyzed

(EB) Excavation Bottom

Photos

EOG Resources
Beowulf 33 State Com 601H
Lea County, New Mexico

View North East, Trench #1

View East, Trench#1

EOG Resources
Beowulf 33 State Com 601H
Lea County, New Mexico

View South, Trench#2

View West, Trench #2

EOG Resources
Beowulf 33 State Com 601H
Lea County, New Mexico

TETRA TECH

View South, Trench#3

View North, Trench #3

EOG Resources
Beowulf 33 State Com 601H
Lea County, New Mexico

View South West, Trench #4

View South, Trench #4

EOG Resources
Beowulf 33 State Com 601H
Lea County, New Mexico

View North, Trench #5

View West, Trench #5

EOG Resources
Beowulf 33 State Com 601H
Lea County, New Mexico

View East, Pasture Area Trench #6

View East, Pasture Area Trench #6

EOG Resources
Beowulf 33 State Com 601H
Lea County, New Mexico

View North, Trench #7

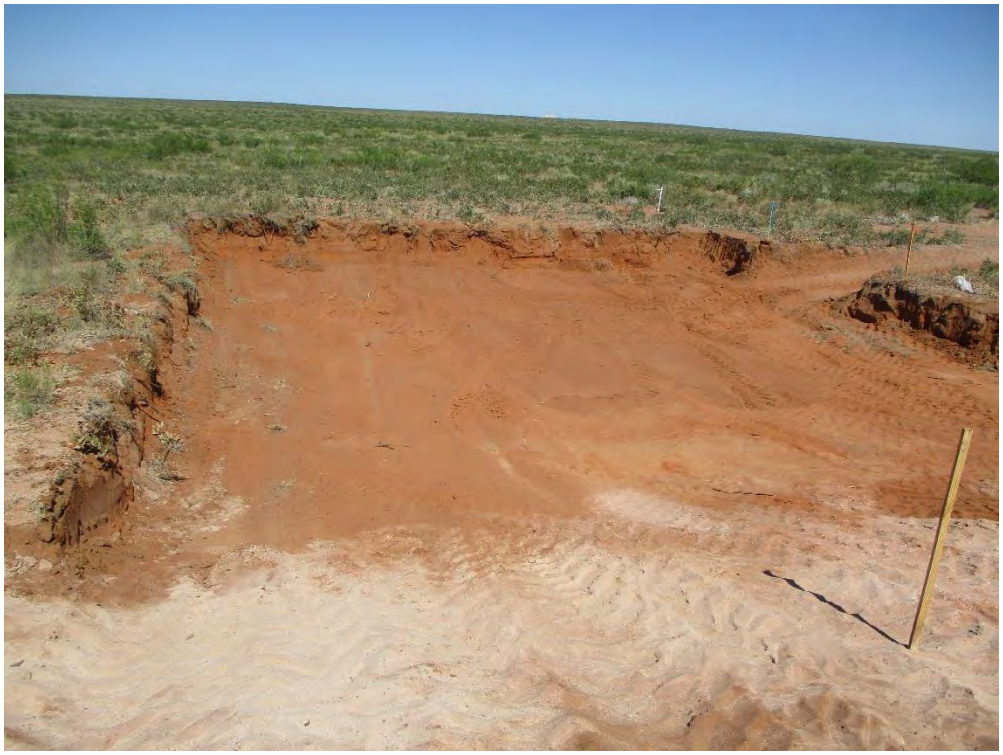
View South, Trench #7

EOG Resources
Beowulf 33 State Com 601H
Lea County, New Mexico

View North, Excavation Area T1, T2, T3 (1.5’)

View South, Excavation Area T1, T2, T3 (1.5’)

EOG Resources
Beowulf 33 State Com 601H
Lea County, New Mexico



View East, Excavation Pasture Area T#6 (3')

View South, Re-Trench#5

EOG Resources
Beowulf 33 State Com 601H
Lea County, New Mexico

View South, Excavated Area T-5, T-7

View North, Excavated Area T-7, T-5, T-4

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 April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: EOG Resources	Contact: Jamon Hohensee
Address: 5509 Champions Drive, Midland, TX 79706	Telephone No. 432-556-8074
Facility Name: Beowulf 33 State Com 601H	Facility Type: Production Facility

Surface Owner: NM State Lands	Mineral Owner: NM State Lands	API No. 30025435310000

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
33	N	23S	35E					

Latitude 32.2551 Longitude -103.3752 NAD83

NATURE OF RELEASE

Type of Release: PW	Volume of Release: 130bbls	Volume Recovered: 0
Source of Release: Water Truck	Date and Hour of Occurrence: 6/28/17, time unknown	Date and Hour of Discovery: 6/29/17
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.*

RECEIVED
By Olivia Yu at 3:02 pm, Jul 03, 2017

Describe Cause of Problem and Remedial Action Taken.*

Produced water was released from a water hauler truck on the side of a production well pad 130bbls released and 0bbls recovered. Lease operator discovered the spill and contacted the EOG environmental group.

Describe Area Affected and Cleanup Action Taken.*

Area is a pipeline ROW just east of the pad. No visible surface waters were impacted. 3rd party environmental firm will investigate site and take necessary steps properly remediate the affected area to regulatory standards.

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:

Printed Name: Jamon Hohensee

Title: Environmental Representative

E-mail Address: jamon_hohensee@eogresources.com

Date: 6/30/17 Phone: 432-556-8074

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: oy

Approval Date: 7/3/2017 Expiration Date:

Conditions of Approval: see attached directive

Attached ☑

* Attach Additional Sheets If Necessary

1RP-4745 nOY1718454674 pOY1718454979

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **EOG Resources**	Contact **Jamon Hohensee**
Address **5509 Champions Drive, Midland, Tx 79706**	Telephone No. **(432)556-8074**
Facility Name Beowulf 33 State Com 601H	Facility Type **Production Facility**

Surface Owner: NM State Lands	Mineral Owner: NM State Lands	API No. 30025435310000

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	33	23S	35E					Lea

Latitude N 32.2551° **Longitude** W 103.3752°

NATURE OF RELEASE

Type of Release: PW	Volume of Release 130 bbls	Volume Recovered 0 bbls
Source of Release: Water Truck	Date and Hour of Occurrence 6/28/17	Date and Hour of Discovery 6/29/17
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom? Josh Russo	Date and Hour 3/15/10 4:59 p.m.	
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.*

Produced water was released from a water hauler truck on the side of a production well pad 130bbls released and 0bbls were recovered. Lease operator discovered the spill and notified EOG environmental group. The soils that impacted were removed; material was transported offsite for proper disposal. The excavated areas were then backfilled with clean material to surface grade.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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: Ike Tavarez	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:	Attached ☐
Date: Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
Beowulf 33 State Com 601H
Lea County, New Mexico

22 South 34 East

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

22 South 35 East

6	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

22 South 36 East

6 195	5 212	4	3	2	1 137
7	8	9	10	11	12
18	17	16 170	15	14	13
19	20	21	22 22	23	24
30	29	28	27 160	26	25 118
31	32	33	34	35 181 187	36

23 South 34 East

6	5	4	3	2	1
7	8 255	9	10	11	12
18	17	16	15	14 318	13
19	20	21	22 295	23 265	24
30	29	28	27	26	25
31	32 130	33	34	35	36

23 South 35 East

6	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 Site	34	35	36

23 South 36 East

6	5	4 160	3	2	1
7	8	9	10	11	12
18	17	16 220	15 149	14	13
19	20	21	22 400	23 143	24
30	29	28	27	26	25
31 189	32	33	34	35	36 127

24 South 34 East

6	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

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

24 South 36 East

6	5	4 165	3	2	1
7	8	9	10	11	12
18	17	16	15 312	14	13
19	20	21	22	23 160	24
30	29	28	27	26	25
31	32	33 54 53	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	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00499	CP	LE		3	3	23	23S	35E	655875	3573194*	150		
CP 00568	CP	LE	2	2	4	09	23S	35E	653908	3576878*	875		
CP 00843 POD1	CP	LE		4	2	36	23S	35E	658729	3570823*	250		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 3

PLSS Search:

Township: 23S **Range:** 35E

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

Appendix C

Analytical Report 557206

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

Beowulf 33 State Com 601H

13-JUL-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

13-JUL-17

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

Reference: XENCO Report No(s): **557206**
Beowulf 33 State Com 601H
Project Address: Lea County, New Mexico

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) 557206. 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. 557206 will be filed for 60 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 557206

Tetra Tech- Midland, Midland, TX

Beowulf 33 State Com 601H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Trench #1 (0-1')	S	07-10-17 00:00		557206-001
Trench #1 (2')	S	07-10-17 00:00		557206-002
Trench #1 (4')	S	07-10-17 00:00		557206-003
Trench #1 (6')	S	07-10-17 00:00		557206-004
Trench #1 (8')	S	07-10-17 00:00		557206-005
Trench #2 (0-1')	S	07-10-17 00:00		557206-006
Trench #2 (1')	S	07-10-17 00:00		557206-007
Trench #2 (2')	S	07-10-17 00:00		557206-008
Trench #2 (4')	S	07-10-17 00:00		557206-009
Trench #2 (6')	S	07-10-17 00:00		557206-010
Trench #2 (8')	S	07-10-17 00:00		557206-011
Trench #3 (0-1')	S	07-10-17 00:00		557206-012
Trench #3 (1')	S	07-10-17 00:00		557206-013
Trench #3 (2')	S	07-10-17 00:00		557206-014
Trench #3 (4')	S	07-10-17 00:00		557206-015
Trench #3 (6')	S	07-10-17 00:00		557206-016
Trench #3 (8')	S	07-10-17 00:00		557206-017
Trench #4 (0-1')	S	07-10-17 00:00		557206-018
Trench #4 (1')	S	07-10-17 00:00		557206-019
Trench #4 (2')	S	07-10-17 00:00		557206-020
Trench #4 (4')	S	07-10-17 00:00		557206-021
Trench #4 (6')	S	07-10-17 00:00		557206-022
Trench #4 (8')	S	07-10-17 00:00		557206-023
Trench #4 (10')	S	07-10-17 00:00		557206-024
Trench #5 (0-1')	S	07-10-17 00:00		557206-025
Trench #5 (1')	S	07-10-17 00:00		557206-026
Trench #5 (2')	S	07-10-17 00:00		557206-027
Trench #5 (4')	S	07-10-17 00:00		557206-028
Trench #5 (6')	S	07-10-17 00:00		557206-029
Trench #5 (8')	S	07-10-17 00:00		557206-030
Trench #5 (10')	S	07-10-17 00:00		557206-031
Trench #5 (12')	S	07-10-17 00:00		557206-032
Trench #5 (14')	S	07-10-17 00:00		557206-033
Trench #6 (0-1')	S	07-10-17 00:00		557206-034
Trench #6 (1')	S	07-10-17 00:00		557206-035
Trench #6 (2')	S	07-10-17 00:00		557206-036
Trench #6 (4')	S	07-10-17 00:00		557206-037
Trench #6 (6')	S	07-10-17 00:00		557206-038
Trench #6 (8')	S	07-10-17 00:00		557206-039
Trench #6 (10')	S	07-10-17 00:00		557206-040
Trench #7 (0-1')	S	07-10-17 00:00		557206-041
Trench #7 (1')	S	07-10-17 00:00		557206-042
Trench #7 (2')	S	07-10-17 00:00		557206-043

Trench #7 (4')	S	07-10-17 00:00	557206-044
Trench #7 (6')	S	07-10-17 00:00	557206-045
Trench #7 (8')	S	07-10-17 00:00	557206-046

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Beowulf 33 State Com 601H

Project ID:
Work Order Number(s): *557206*

Report Date: *13-JUL-17*
Date Received: *07/11/2017*

Sample receipt non conformances and comments:

07/12/17: Per Jeanne Finch, run Chlorides that were originally marked on the COC on hold.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3022018 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3022023 Inorganic Anions by EPA 300/300.1

Lab Sample ID 557206-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 557206-001, -005, -006, -011, -012, -017, -018, -024, -025, -033, -034, -040, -041, -046.

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

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 13-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-001		557206-002		557206-003		557206-004		557206-005		557206-006	
	Field Id:	Trench #1 (0-1')		Trench #1 (2')		Trench #1 (4')		Trench #1 (6')		Trench #1 (8')		Trench #2 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	***Extracted:***	Jul-11-17 16:00								Jul-11-17 16:00		Jul-11-17 16:00	
	Analyzed:	Jul-11-17 17:44								Jul-11-17 18:00		Jul-12-17 07:39	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
Toluene		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
Ethylbenzene		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
m,p-Xylenes		<0.00398	0.00398							<0.00401	0.00401	<0.00702	0.00702
o-Xylene		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
Total Xylenes		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
Total BTEX		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-11-17 17:00		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-11-17 17:00		Jul-11-17 17:00	
	Analyzed:	Jul-11-17 18:00		Jul-12-17 14:35		Jul-12-17 14:58		Jul-12-17 15:14		Jul-11-17 17:37		Jul-11-17 18:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1540	24.6	16.4	5.00	17.9	5.00	18.4	5.00	107	4.93	781	4.96
TPH By SW8015 Mod	***Extracted:***	Jul-11-17 11:00								Jul-11-17 11:00		Jul-11-17 11:00	
	Analyzed:	Jul-11-17 13:22								Jul-11-17 14:23		Jul-11-17 14:44	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0							<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		21.2	15.0							<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0							<15.0	15.0	<15.0	15.0
Total TPH		21.2	15.0							<15.0	15.0	<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 13-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	557206-007		557206-008		557206-009		557206-010		557206-011		557206-012	
	Field Id:	Trench #2 (1')		Trench #2 (2')		Trench #2 (4')		Trench #2 (6')		Trench #2 (8')		Trench #3 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	*Extracted:*									Jul-11-17 16:00		Jul-11-17 16:00	
	Analyzed:									Jul-12-17 07:56		Jul-11-17 18:48	
	Units/RL:									mg/kg	RL	mg/kg	RL
Benzene										<0.00344	0.00344	<0.00202	0.00202
Toluene										<0.00344	0.00344	<0.00202	0.00202
Ethylbenzene										<0.00344	0.00344	<0.00202	0.00202
m,p-Xylenes										<0.00687	0.00687	<0.00404	0.00404
o-Xylene										<0.00344	0.00344	<0.00202	0.00202
Total Xylenes										<0.00344	0.00344	<0.00202	0.00202
Total BTEX										<0.00344	0.00344	<0.00202	0.00202
Inorganic Anions by EPA 300/300.1	*Extracted:*	Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-11-17 17:00		Jul-11-17 17:00	
	Analyzed:	Jul-12-17 15:21		Jul-12-17 15:29		Jul-12-17 16:06		Jul-12-17 16:13		Jul-11-17 18:16		Jul-11-17 18:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1150	5.00	6.01	5.00	6.13	5.00	<5.00	5.00	14.3	4.98	2600	25.0
TPH By SW8015 Mod	*Extracted:*									Jul-11-17 11:00		Jul-11-17 11:00	
	Analyzed:									Jul-11-17 15:04		Jul-11-17 15:25	
	Units/RL:									mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)										<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)										<14.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)										<14.9	14.9	<15.0	15.0
Total TPH										<14.9	14.9	<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 13-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-013		557206-014		557206-015		557206-016		557206-017		557206-018	
	Field Id:	Trench #3 (1')		Trench #3 (2')		Trench #3 (4')		Trench #3 (6')		Trench #3 (8')		Trench #4 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	***Extracted:***									Jul-11-17 16:00		Jul-11-17 16:00	
	Analyzed:									Jul-11-17 19:05		Jul-11-17 19:20	
	Units/RL:									mg/kg	RL	mg/kg	RL
Benzene										<0.00200	0.00200	<0.00201	0.00201
Toluene										<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene										<0.00200	0.00200	<0.00201	0.00201
m,p-Xylenes										<0.00401	0.00401	<0.00402	0.00402
o-Xylene										<0.00200	0.00200	<0.00201	0.00201
Total Xylenes										<0.00200	0.00200	<0.00201	0.00201
Total BTEX										<0.00200	0.00200	<0.00201	0.00201
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-11-17 17:00		Jul-11-17 17:00	
	Analyzed:	Jul-12-17 16:21		Jul-12-17 16:29		Jul-12-17 16:37		Jul-12-17 16:44		Jul-11-17 18:46		Jul-11-17 18:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2750	25.0	67.3	5.00	7.90	5.00	6.39	5.00	11.8	4.94	3830	24.9
TPH By SW8015 Mod	***Extracted:***									Jul-11-17 11:00		Jul-11-17 11:00	
	Analyzed:									Jul-11-17 15:46		Jul-11-17 16:06	
	Units/RL:									mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)										<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)										<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)										<15.0	15.0	<15.0	15.0
Total TPH										<15.0	15.0	<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 13-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-019		557206-020		557206-021		557206-022		557206-023		557206-024	
	Field Id:	Trench #4 (1')		Trench #4 (2')		Trench #4 (4')		Trench #4 (6')		Trench #4 (8')		Trench #4 (10')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	***Extracted:***											Jul-11-17 16:00	
	Analyzed:											Jul-11-17 19:36	
	Units/RL:											mg/kg	RL
Benzene												<0.00198	0.00198
Toluene												<0.00198	0.00198
Ethylbenzene												<0.00198	0.00198
m,p-Xylenes												<0.00396	0.00396
o-Xylene												<0.00198	0.00198
Total Xylenes												<0.00198	0.00198
Total BTEX												<0.00198	0.00198
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-11-17 17:00	
	Analyzed:	Jul-12-17 17:07		Jul-12-17 17:15		Jul-12-17 17:38		Jul-12-17 17:46		Jul-12-17 17:53		Jul-11-17 19:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3080	25.0	1380	25.0	252	4.95	35.9	4.94	108	4.91	26.8	4.99
TPH By SW8015 Mod	***Extracted:***											Jul-11-17 11:00	
	Analyzed:											Jul-11-17 16:27	
	Units/RL:											mg/kg	RL
Gasoline Range Hydrocarbons (GRO)												<15.0	15.0
Diesel Range Organics (DRO)												<15.0	15.0
Oil Range Hydrocarbons (ORO)												<15.0	15.0
Total TPH												<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 13-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-025		557206-026		557206-027		557206-028		557206-029		557206-030	
	Field Id:	Trench #5 (0-1')		Trench #5 (1')		Trench #5 (2')		Trench #5 (4')		Trench #5 (6')		Trench #5 (8')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	***Extracted:***	Jul-11-17 16:00											
	Analyzed:	Jul-11-17 19:53											
	Units/RL:	mg/kg	RL										
Benzene		<0.00201	0.00201										
Toluene		<0.00201	0.00201										
Ethylbenzene		<0.00201	0.00201										
m,p-Xylenes		<0.00402	0.00402										
o-Xylene		<0.00201	0.00201										
Total Xylenes		<0.00201	0.00201										
Total BTEX		<0.00201	0.00201										
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-11-17 17:00		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 15:00	
	Analyzed:	Jul-11-17 19:09		Jul-12-17 18:01		Jul-12-17 18:09		Jul-12-17 18:16		Jul-12-17 18:24		Jul-12-17 19:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5030	49.5	3370	24.8	2340	24.8	875	5.00	399	4.99	3010	24.8
TPH By SW8015 Mod	***Extracted:***	Jul-11-17 11:00											
	Analyzed:	Jul-11-17 16:47											
	Units/RL:	mg/kg	RL										
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0										
Diesel Range Organics (DRO)		187	15.0										
Oil Range Hydrocarbons (ORO)		<15.0	15.0										
Total TPH		187	15.0										

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 13-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-031		557206-032		557206-033		557206-034		557206-035		557206-036	
	Field Id:	Trench #5 (10')		Trench #5 (12')		Trench #5 (14')		Trench #6 (0-1')		Trench #6 (1')		Trench #6 (2')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	***Extracted:***					Jul-11-17 16:00		Jul-11-17 16:00					
	Analyzed:					Jul-11-17 20:41		Jul-12-17 08:12					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Benzene						<0.00202	0.00202	<0.00337	0.00337				
Toluene						<0.00202	0.00202	<0.00337	0.00337				
Ethylbenzene						<0.00202	0.00202	<0.00337	0.00337				
m,p-Xylenes						<0.00404	0.00404	<0.00673	0.00673				
o-Xylene						<0.00202	0.00202	<0.00337	0.00337				
Total Xylenes						<0.00202	0.00202	<0.00337	0.00337				
Total BTEX						<0.00202	0.00202	<0.00337	0.00337				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-12-17 15:00		Jul-12-17 15:00		Jul-11-17 17:00		Jul-11-17 17:00		Jul-12-17 15:00		Jul-12-17 15:00	
	Analyzed:	Jul-12-17 19:10		Jul-12-17 19:41		Jul-11-17 19:17		Jul-11-17 19:48		Jul-12-17 19:49		Jul-12-17 19:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		302	4.96	706	4.95	98.5	4.97	2030	24.9	1780	24.8	1070	4.98
TPH By SW8015 Mod	***Extracted:***					Jul-11-17 11:00		Jul-11-17 11:00					
	Analyzed:					Jul-11-17 17:07		Jul-11-17 18:07					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)						<15.0	15.0	<14.9	14.9				
Diesel Range Organics (DRO)						<15.0	15.0	<14.9	14.9				
Oil Range Hydrocarbons (ORO)						<15.0	15.0	<14.9	14.9				
Total TPH						<15.0	15.0	<14.9	14.9				

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 13-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-037		557206-038		557206-039		557206-040		557206-041		557206-042	
	Field Id:	Trench #6 (4')		Trench #6 (6')		Trench #6 (8')		Trench #6 (10')		Trench #7 (0-1')		Trench #7 (1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	***Extracted:***							Jul-11-17 16:00		Jul-11-17 16:00			
	Analyzed:							Jul-11-17 17:27		Jul-11-17 21:14			
	Units/RL:							mg/kg	RL	mg/kg	RL		
Benzene								<0.00200	0.00200	<0.00200	0.00200		
Toluene								<0.00200	0.00200	<0.00200	0.00200		
Ethylbenzene								<0.00200	0.00200	<0.00200	0.00200		
m,p-Xylenes								<0.00401	0.00401	<0.00401	0.00401		
o-Xylene								<0.00200	0.00200	<0.00200	0.00200		
Total Xylenes								<0.00200	0.00200	<0.00200	0.00200		
Total BTEX								<0.00200	0.00200	<0.00200	0.00200		
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-12-17 15:00		Jul-12-17 15:00		Jul-12-17 15:00		Jul-11-17 17:00		Jul-11-17 17:00		Jul-12-17 15:00	
	Analyzed:	Jul-12-17 20:19		Jul-12-17 20:27		Jul-12-17 20:35		Jul-11-17 19:25		Jul-11-17 19:55		Jul-12-17 20:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		234	4.98	7.30	4.93	9.67	4.99	9.98	4.99	1200	24.9	1200	4.97
TPH By SW8015 Mod	***Extracted:***							Jul-11-17 11:00		Jul-11-17 11:00			
	Analyzed:							Jul-11-17 18:26		Jul-11-17 18:46			
	Units/RL:							mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)								<15.0	15.0	<15.0	15.0		
Diesel Range Organics (DRO)								<15.0	15.0	66.0	15.0		
Oil Range Hydrocarbons (ORO)								<15.0	15.0	<15.0	15.0		
Total TPH								<15.0	15.0	66.0	15.0		

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 13-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-043		557206-044		557206-045		557206-046					
	Field Id:	Trench #7 (2')		Trench #7 (4')		Trench #7 (6')		Trench #7 (8')					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00					
BTEX by EPA 8021B	***Extracted:***							Jul-11-17 16:00					
	Analyzed:							Jul-11-17 21:30					
	Units/RL:							mg/kg	RL				
Benzene								<0.00199	0.00199				
Toluene								<0.00199	0.00199				
Ethylbenzene								<0.00199	0.00199				
m,p-Xylenes								<0.00398	0.00398				
o-Xylene								<0.00199	0.00199				
Total Xylenes								<0.00199	0.00199				
Total BTEX								<0.00199	0.00199				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-12-17 15:00		Jul-12-17 15:00		Jul-12-17 15:00		Jul-11-17 17:00					
	Analyzed:	Jul-12-17 20:50		Jul-12-17 20:58		Jul-12-17 21:21		Jul-11-17 20:18					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		42.8	4.96	10.4	4.98	6.32	5.00	44.0	4.99				
TPH By SW8015 Mod	***Extracted:***							Jul-11-17 11:00					
	Analyzed:							Jul-11-17 19:06					
	Units/RL:							mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)								<15.0	15.0				
Diesel Range Organics (DRO)								<15.0	15.0				
Oil Range Hydrocarbons (ORO)								<15.0	15.0				
Total TPH								<15.0	15.0				

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

+ NELAC certification not offered for this compound.

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

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206, 557206 **Project ID:**

Lab Batch #: 3022004 **Sample:** 557206-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 13:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.8	114	70-135	
o-Terphenyl	58.7	49.9	118	70-135	

Lab Batch #: 3022004 **Sample:** 557206-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 14:23

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.7	111	70-135	
o-Terphenyl	57.0	49.9	114	70-135	

Lab Batch #: 3022004 **Sample:** 557206-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 14:44

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.7	109	70-135	
o-Terphenyl	55.8	49.9	112	70-135	

Lab Batch #: 3022004 **Sample:** 557206-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 15:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.6	111	70-135	
o-Terphenyl	56.6	49.8	114	70-135	

Lab Batch #: 3022004 **Sample:** 557206-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 15:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.9	127	70-135	
o-Terphenyl	64.9	50.0	130	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206, 557206 **Project ID:**

Lab Batch #: 3022004 **Sample:** 557206-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 15:46

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.9	120	70-135	
o-Terphenyl	62.1	50.0	124	70-135	

Lab Batch #: 3022004 **Sample:** 557206-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 16:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

Lab Batch #: 3022004 **Sample:** 557206-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 16:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	57.9	49.9	116	70-135	

Lab Batch #: 3022004 **Sample:** 557206-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 16:47

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.9	112	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 3022004 **Sample:** 557206-033 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 17:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.8	110	70-135	
o-Terphenyl	57.5	49.9	115	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206, 557206 **Project ID:**

Lab Batch #: 3022018 **Sample:** 557206-040 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 17:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0344	0.0300	115	80-120	

Lab Batch #: 3022018 **Sample:** 557206-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 17:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 3022018 **Sample:** 557206-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 18:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0349	0.0300	116	80-120	

Lab Batch #: 3022004 **Sample:** 557206-034 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 18:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.6	111	70-135	
o-Terphenyl	57.3	49.8	115	70-135	

Lab Batch #: 3022004 **Sample:** 557206-040 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 18:26

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.7	114	70-135	
o-Terphenyl	59.1	49.9	118	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206, 557206 **Project ID:**

Lab Batch #: 3022004 **Sample:** 557206-041 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 18:46

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.7	112	70-135	
o-Terphenyl	57.9	49.9	116	70-135	

Lab Batch #: 3022018 **Sample:** 557206-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 18:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 3022018 **Sample:** 557206-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 19:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 3022004 **Sample:** 557206-046 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 19:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.8	108	70-135	
o-Terphenyl	56.2	49.9	113	70-135	

Lab Batch #: 3022018 **Sample:** 557206-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 19:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0343	0.0300	114	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206, 557206 **Project ID:**

Lab Batch #: 3022018 **Sample:** 557206-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 19:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 3022018 **Sample:** 557206-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 19:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	80-120	
4-Bromofluorobenzene	0.0274	0.0300	91	80-120	

Lab Batch #: 3022018 **Sample:** 557206-033 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 20:41

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0250	0.0300	83	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	80-120	

Lab Batch #: 3022018 **Sample:** 557206-041 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 21:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0259	0.0300	86	80-120	
4-Bromofluorobenzene	0.0341	0.0300	114	80-120	

Lab Batch #: 3022018 **Sample:** 557206-046 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 21:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene	0.0253	0.0300	84	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206, 557206 **Project ID:**

Lab Batch #: 3022018 **Sample:** 557206-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/12/17 07:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 3022018 **Sample:** 557206-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/12/17 07:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 3022018 **Sample:** 557206-034 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/12/17 08:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0249	0.0300	83	80-120	
4-Bromofluorobenzene	0.0278	0.0300	93	80-120	

Lab Batch #: 3022004 **Sample:** 727483-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 12:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	59.6	50.0	119	70-135	

Lab Batch #: 3022018 **Sample:** 727492-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 17:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206, 557206 **Project ID:**

Lab Batch #: 3022004 **Sample:** 727483-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 12:41

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	62.5	50.0	125	70-135	

Lab Batch #: 3022018 **Sample:** 727492-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 15:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

Lab Batch #: 3022004 **Sample:** 727483-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 13:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	62.1	50.0	124	70-135	

Lab Batch #: 3022018 **Sample:** 727492-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 16:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	

Lab Batch #: 3022004 **Sample:** 557206-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 13:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	57.1	50.0	114	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206, 557206 **Project ID:**

Lab Batch #: 3022018 **Sample:** 557206-040 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 16:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0345	0.0300	115	80-120	

Lab Batch #: 3022004 **Sample:** 557206-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 14:03

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.8	129	70-135	
o-Terphenyl	64.4	49.9	129	70-135	

Lab Batch #: 3022018 **Sample:** 557206-040 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 16:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0334	0.0300	111	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Beowulf 33 State Com 601H

Work Order #: 557206, 557206 **Project ID:**

Analyst: ALJ **Date Prepared:** 07/11/2017 **Date Analyzed:** 07/11/2017

Lab Batch ID: 3022018 **Sample:** 727492-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00200	0.100	0.115	115	0.0998	0.121	121	5	70-130	35	
Toluene	<0.00200	0.100	0.111	111	0.0998	0.108	108	3	70-130	35	
Ethylbenzene	<0.00200	0.100	0.115	115	0.0998	0.118	118	3	71-129	35	
m,p-Xylenes	<0.00401	0.200	0.206	103	0.200	0.205	103	0	70-135	35	
o-Xylene	<0.00200	0.100	0.114	114	0.0998	0.120	120	5	71-133	35	

Analyst: MGO **Date Prepared:** 07/11/2017 **Date Analyzed:** 07/11/2017

Lab Batch ID: 3022023 **Sample:** 727493-1-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	254	102	2	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

BS / BSD Recoveries

Project Name: Beowulf 33 State Com 601H

Work Order #: 557206, 557206 **Project ID:**

Analyst: MGO **Date Prepared:** 07/12/2017 **Date Analyzed:** 07/12/2017

Lab Batch ID: 3022109 **Sample:** 727553-1-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	259	104	0	90-110	20	

Analyst: MGO **Date Prepared:** 07/12/2017 **Date Analyzed:** 07/12/2017

Lab Batch ID: 3022113 **Sample:** 727554-1-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	262	105	250	263	105	0	90-110	20	

Analyst: ARM **Date Prepared:** 07/11/2017 **Date Analyzed:** 07/11/2017

Lab Batch ID: 3022004 **Sample:** 727483-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1150	115	1000	1100	110	4	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1120	112	1000	1100	110	2	70-135	35	

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: Beowulf 33 State Com 601H

Work Order # : 557206 **Project ID:**

Lab Batch ID: 3022018 **QC- Sample ID:** 557206-040 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/11/2017 **Date Prepared:** 07/11/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00202	0.101	0.103	102	0.100	0.119	119	14	70-130	35	
Toluene	<0.00202	0.101	0.0942	93	0.100	0.103	103	9	70-130	35	
Ethylbenzene	<0.00202	0.101	0.101	100	0.100	0.118	118	16	71-129	35	
m,p-Xylenes	<0.00403	0.202	0.181	90	0.200	0.203	102	11	70-135	35	
o-Xylene	<0.00202	0.101	0.0996	99	0.100	0.110	110	10	71-133	35	

Lab Batch ID: 3022023 **QC- Sample ID:** 557206-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/11/2017 **Date Prepared:** 07/11/2017 **Analyst:** MGO

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	107	247	378	110	247	387	113	2	90-110	20	X

Lab Batch ID: 3022023 **QC- Sample ID:** 557206-040 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/11/2017 **Date Prepared:** 07/11/2017 **Analyst:** MGO

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	9.98	250	284	110	250	286	110	1	90-110	20	

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: Beowulf 33 State Com 601H

Work Order # : 557206 **Project ID:**

Lab Batch ID: 3022109 **QC- Sample ID:** 557206-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/12/2017 **Date Prepared:** 07/12/2017 **Analyst:** MGO

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	16.4	250	273	103	250	275	103	1	90-110	20	

Lab Batch ID: 3022109 **QC- Sample ID:** 557206-016 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/12/2017 **Date Prepared:** 07/12/2017 **Analyst:** MGO

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	6.39	250	270	105	250	269	105	0	90-110	20	

Lab Batch ID: 3022113 **QC- Sample ID:** 557206-031 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/12/2017 **Date Prepared:** 07/12/2017 **Analyst:** MGO

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	302	248	554	102	248	550	100	1	90-110	20	

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: Beowulf 33 State Com 601H

Work Order # : 557206 **Project ID:**

Lab Batch ID: 3022113 **QC- Sample ID:** 557206-044 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/12/2017 **Date Prepared:** 07/12/2017 **Analyst:** MGO

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	10.4	249	279	108	249	274	106	2	90-110	20	

Lab Batch ID: 3022004 **QC- Sample ID:** 557206-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/11/2017 **Date Prepared:** 07/11/2017 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1030	103	998	1060	106	3	70-135	35	
Diesel Range Organics (DRO)	21.2	1000	1000	98	998	1070	105	7	70-135	35	

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.

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557206

Client Name: EOG / DET Trucking	Site Manager: Ike Tavarez
Project Name: Beowulf 33 State Com 601H	
Project Location: (county, state) Lea County, New Mexico	Project #:
Invoice to: Tetra Tech	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature:
Comments: Rush	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR: 2017)	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)
	Trench #1 (0-1')	7/10/2017			X					X		1	N
	Trench #1 (2 ')	7/10/2017			X					X		1	N
	Trench #1 (4')	7/10/2017			X					X		1	N
	Trench #1 (6')	7/10/2017			X					X		1	N
	Trench #1 (8')	7/10/2017			X					X		1	N
	Trench #2 (0-1')	7/10/2017			X					x		1	N
	Trench #2 (1')	7/10/2017			X					X		1	N
	Trench #2 (2')	7/10/2017			X					X		1	N
	Trench #2 (4')	7/10/2017			X					X		1	N
	Trench #2 (6')	7/10/2017			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				
X			X												X							
															X							
															X							
															X							
															X							
X			X												X							
X			X												X							
															X							
															X							
															X							
															X							

Relinquished by:	Date: 7-11-17	Time: 10:40	Received by: Shanne Smith
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 7-11-17 Time: 10:37

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

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

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

'ERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 7.0 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 5.0

Final 1.001

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557206

Client Name: EOG / DET Trucking

Site Manager: Ike Tavarez

Project Name: Beowulf 33 State Com 601H

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

Project #:

Invoice to: Tetra Tech

Receiving Laboratory: Xenco Midland Tx

Sampler Signature:

Comments: Rush

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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				
	Trench #2 (8')	7/10/2017			X					X		1	N	X		X												X							
	Trench #3 (0-1')	7/10/2017			X					X		1	N	X		X												X							
	Trench #3 (1')	7/10/2017			X					X		1	N															X							
	Trench #3 (2')	7/10/2017			X					X		1	N															X							
	Trench #3 (4')	7/10/2017			X					X		1	N															X							
	Trench #3 (6')	7/10/2017			X					X		1	N															X							
	Trench #3 (8')	7/10/2017			X					x		1	N															X							
	Trench #4 (0-1')	7/10/2017			X					X		1	N	X		X												X							
	Trench #4 (1')	7/10/2017			X					X		1	N	X		X												X							
	Trench #4 (2')	7/10/2017			X					X		1	N															X							

Relinquished by: Date: 7-11-17 Time: 10:40
Received by: Maurechmith Date: 7-11-17 Time: 10:40

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

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

LAB USE ONLY

Sample Temperature

REMARKS:
STANDARD
[X] RUSH: Same Day (24 hr) 48 hr 72 hr
[ ] Rush Charges Authorized
[ ] Special Report Limits or TRRP Report

D DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 7.0 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.0

Final 1.001

Page 29 of 38 Hold

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557205

Client Name:	EOG / DET Trucking
Site Manager:	Ike Tavarez
Project Name:	Beowulf 33 State Com 601H
Project Location: (county, state)	Lea County, New Mexico
Project #:	
Invoice to:	Tetra Tech
Receiving Laboratory:	Xenco Midland Tx
Sampler Signature:	
Comments:	Rush

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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)
	Trench #4 (4 ')	7/10/2017			X					X		1	N
	Trench #4 (6')	7/10/2017			X					X		1	N
	Trench #4 (8')	7/10/2017			X					X		1	N
	Trench #4 (10')	7/10/2017			X					X		1	N
	Trench #5 (0-1')	7/10/2017			X					X		1	N
	Trench #5 (1')	7/10/2017			X					x		1	N
	Trench #5 (2')	7/10/2017			X					X		1	N
	Trench #5 (4')	7/10/2017			X					X		1	N
	Trench #5 (6')	7/10/2017			X					X		1	N
	Trench #5 (8')	7/10/2017			X					X		1	N

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B	BTEX 8260B	TPH TX1005 (Ext to C35)	TRH 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				
															X							
															X							
															X							
															X							
X			X												X							
															X							
															X							
															X							
															X							
															X							
															X							

Relinquished by: Date: 7-11-17 Time: 10:40
Received by: Shaunedsmith Date: 7-11-17 Time: 10:37

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

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

LAB USE ONLY
Sample Temperature

REMARKS:
STANDARD
[X] RUSH: Same Day 24 hr 48 hr 72 hr
[ ] Rush Charges Authorized
[ ] Special Report Limits or TRRP Report

) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL CO Temp: 5.7.0 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.0

Final 1.001

Analysis Request of Chain of Custody Record

Page 4 of

Tetra Tech, Inc.

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

557204

Client Name: EOG / D&T Trucking

Site Manager: Ike Tavarez

Project Name: Beowulf 33 State Com 601H

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

Project #:

Invoice to: Tetra Tech

Receiving Laboratory: Xenco Midland Tx

Sampler Signature:

Comments: Rush

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	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			
	Trench #5 (10')	7/10/2017			X					X	1	N														X							
	Trench #5 (12')	7/10/2017			X					X	1	N														X							
	Trench #5 (14')	7/10/2017			X					X	1	N														X							
	Trench #6 (0-1')	7/10/2017			X					X	1	N	X		X											X							
	Trench #6 (1')	7/10/2017			X					X	1	N	X		X											X							
	Trench #6 (2')	7/10/2017			X					X	1	N														X							
	Trench #6 (4')	7/10/2017			X					x	1	N														X							
	Trench #6 (6')	7/10/2017			X					X	1	N														X							
	Trench #6 (8')	7/10/2017			X					X	1	N														X							
	Trench #6 (10')	7/10/2017			X					X	1	N	X		X											X							

	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
		7-11-17	1040	Maurice Smith	7-11-17	10:37
	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

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

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 7.0 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.0

Final 1.001

Page 31 of 38

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557208

Client Name: EOG / D&T Trucking	Site Manager: Ike Tavarez
Project Name: Beowulf 33 State Com 601H	
Project Location: (county, state) Lea County, New Mexico	Project #:
Invoice to: Tetra Tech	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature:
Comments: Rush	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 DATE	TIME	MATRIX WATER	SOIL		PRESERVATIVE METHOD HCL	HNO_3	ICE	None		# CONTAINERS	FILTERED (Y/N)
	Trench #7 (0-1')	7/10/2017			X					X		1	N
	Trench #7 (1')	7/10/2017			X					X		1	N
	Trench #7 (2')	7/10/2017			X					X		1	N
	Trench #7 (4')	7/10/2017			X					X		1	N
	Trench #7 (6')	7/10/2017			X					X		1	N
	Trench #7 (8')	7/10/2017			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				
X			X												X							
															X							
															X							
															X							
															X							
															X							
X			X												X							

Relinquished by: [signature] Date: 7-11-17 Time: 10:40
Received by: [signature] Date: 7-11-17 Time: 10:37

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

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

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

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

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

AND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 7.0 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.0

Final 1.001

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557206

Client Name: EOG / DET Trucking

Site Manager: Ike Tavarez

Project Name: Beowulf 33 State Com 601H

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

Project #:

Invoice to: Tetra Tech

Receiving Laboratory: Xenco Midland Tx

Sampler Signature:

Comments: Rush

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE HCL	PRESERVATIVE HNO_3	PRESERVATIVE ICE	PRESERVATIVE None	PRESERVATIVE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B	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	PCBs 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance
	Trench #1 (0-1')	7/10/2017			X					X		1	N	X		X												X			
	Trench #1 (2 ')	7/10/2017			X					X		1	N															X			
	Trench #1 (4')	7/10/2017			X					X		1	N															X			
	Trench #1 (6')	7/10/2017			X					X		1	N															X			
	Trench #1 (8')	7/10/2017			X					X		1	N															X			
	Trench #2 (0-1')	7/10/2017			X					X		1	N	X		X												X			
	Trench #2 (1')	7/10/2017			X					x		1	N	X		X												X			
	Trench #2 (2')	7/10/2017			X					X		1	N															X			
	Trench #2 (4')	7/10/2017			X					X		1	N															X			
	Trench #2 (6')	7/10/2017			X					X		1	N															X			

Relinquished by: Date: 7-11-17 Time: 10:40 — Received by: Date: 7-11-17 Time: 10:37

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

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB USE ONLY

Sample Temperature

REMARKS:
STANDARD

[X] RUSH: Same Day (24 hr) 48 hr 72 hr

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

LIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 5.2 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.0

Final 1.001

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557206

Client Name: EOG (DET Trucking)

Site Manager: Ike Tavarez

Project Name: Beowulf 33 State Com 601H

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

Project #:

Invoice to: Tetra Tech

Receiving Laboratory: Xenco Midland Tx

Sampler Signature:

Comments: Rush

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE HCL	PRESERVATIVE HNO_3	PRESERVATIVE ICE	PRESERVATIVE 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
	Trench #2 (8')	7/10/2017			X				X	1	N		X													X			
	Trench #3 (0-1')	7/10/2017			X				X	1	N		X		X											X			
	Trench #3 (1')	7/10/2017			X				X	1	N															X			
	Trench #3 (2')	7/10/2017			X				X	1	N															X			
	Trench #3 (4')	7/10/2017			X				X	1	N															X			
	Trench #3 (6')	7/10/2017			X				X	1	N															X			
	Trench #3 (8')	7/10/2017			X				x	1	N															X			
	Trench #4 (0-1')	7/10/2017			X				X	1	N		X		X											X			
	Trench #4 (1')	7/10/2017			X				X	1	N															X			
	Trench #4 (2')	7/10/2017			X				X	1	N															X			

Relinquished by: Date: 7-11-17 Time: 10:40
Received by: Date: 7-11-17 Time: 10:40

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

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

LAB USE ONLY

Sample Temperature

REMARKS:
STANDARD

[X] RUSH: Same Day (24 hr) 48 hr 72 hr

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

) DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 5.2 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.0

Final 1.001

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557208

Client Name: EOG / DET Trucking	Site Manager: Ike Tavarez
Project Name: Beowulf 33 State Com 601H	
Project Location: (county, state) Lea County, New Mexico	Project #:
Invoice to: Tetra Tech	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature:
Comments: Rush	

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				
	Trench #4 (4 ')	7/10/2017			X					X		1	N															X							
	Trench #4 (6')	7/10/2017			X					X		1	N															X							
	Trench #4 (8')	7/10/2017			X					X		1	N															X							
	Trench #4 (10')	7/10/2017			X					X		1	N															X							
	Trench #5 (0-1')	7/10/2017			X					X		1	N	X		X												X							
	Trench #5 (1')	7/10/2017			X					x		1	N															X							
	Trench #5 (2')	7/10/2017			X					X		1	N															X							✓
	Trench #5 (4')	7/10/2017			X					X		1	N															X							✓
	Trench #5 (6')	7/10/2017			X					X		1	N															X							✓
	Trench #5 (8')	7/10/2017			X					X		1	N															X							✓

Relinquished by:	Date: 7-11-17	Time: 1040	Received by: Shawn Smith
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 7-11-17 Time: 10:37

Date: Time:

Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

[X] **RUSH:** Same Day (24 hr) 48 hr 72 hr

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL CO

Temp: 5.2 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 5.0

Final 1.001

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557204

Client Name: EOG / D&T Trucking

Site Manager: Ike Tavarez

Project Name: Beowulf 33 State Com 601H

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

Project #:

Invoice to: Tetra Tech

Receiving Laboratory: Xenco Midland Tx

Sampler Signature:

Comments: Rush

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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)
	Trench #5 (10')	7/10/2017			X					X		1	N
	Trench #5 (12')	7/10/2017			X					X		1	N
	Trench #5 (14')	7/10/2017			X					X		1	N
	Trench #6 (0-1')	7/10/2017			X					X		1	N
	Trench #6 (1')	7/10/2017			X					X		1	N
	Trench #6 (2')	7/10/2017			X					X		1	N
	Trench #6 (4')	7/10/2017			X					x		1	N
	Trench #6 (6')	7/10/2017			X					X		1	N
	Trench #6 (8')	7/10/2017			X					X		1	N
	Trench #6 (10')	7/10/2017			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				
X		X													X							
X		X													X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							
															X							
X		X													X							

Final 1.001

Relinquished by: Date: 7-11-17 Time: 1040

Received by: Maurice Smith Date: 7-11-17 Time: 10:37

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

X RUSH: Same Day 24 hr 48 hr 72 hr

Rush Charges Authorized

Special Report Limits or TRRP Report

FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 5.2 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 5.0

Analysis Request of Chain of Custody Record

Page 5 of 6

Tetra Tech, Inc.

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

557208

Client Name: EOG / D&T Trucking	Site Manager: Ike Tavarez
Project Name: Beowulf 33 State Com 601H	
Project Location: (county, state) Lea County, New Mexico	Project #:
Invoice to: Tetra Tech	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature:
Comments: Rush	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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)
	Trench #7 (0-1')	7/10/2017			X					X		1	N
	Trench #7 (1')	7/10/2017			X					X		1	N
	Trench #7 (2')	7/10/2017			X					X		1	N
	Trench #7 (4')	7/10/2017			X					X		1	N
	Trench #7 (6')	7/10/2017			X					X		1	N
	Trench #7 (8')	7/10/2017			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				
X			X												X							
															X							
															X							
															X							
															X							
															X							
X			X												X							

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	7-11-17	10:40	[signature]	7-11-17	10:37
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

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

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

AND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 5.2 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 5.0

Final 1.001

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 07/11/2017 10:37:00 AM

Work Order #: 557206

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

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

Analyst: ss

PH Device/Lot#:

Checklist completed by: Shawnee Smith Date: 07/11/2017

Shawnee Smith

Checklist reviewed by: Mike Kimmel Date: 07/11/2017

Mike Kimmel

Analytical Report 557206

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

Beowulf 33 State Com 601H

14-JUL-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

14-JUL-17

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

Reference: XENCO Report No(s): **557206**
Beowulf 33 State Com 601H
Project Address: Lea County, New Mexico

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) 557206. 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. 557206 will be filed for 60 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 557206

Tetra Tech- Midland, Midland, TX

Beowulf 33 State Com 601H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Trench #1 (0-1')	S	07-10-17 00:00		557206-001
Trench #1 (2')	S	07-10-17 00:00		557206-002
Trench #1 (4')	S	07-10-17 00:00		557206-003
Trench #1 (6')	S	07-10-17 00:00		557206-004
Trench #1 (8')	S	07-10-17 00:00		557206-005
Trench #2 (0-1')	S	07-10-17 00:00		557206-006
Trench #2 (1')	S	07-10-17 00:00		557206-007
Trench #2 (2')	S	07-10-17 00:00		557206-008
Trench #2 (4')	S	07-10-17 00:00		557206-009
Trench #2 (6')	S	07-10-17 00:00		557206-010
Trench #2 (8')	S	07-10-17 00:00		557206-011
Trench #3 (0-1')	S	07-10-17 00:00		557206-012
Trench #3 (1')	S	07-10-17 00:00		557206-013
Trench #3 (2')	S	07-10-17 00:00		557206-014
Trench #3 (4')	S	07-10-17 00:00		557206-015
Trench #3 (6')	S	07-10-17 00:00		557206-016
Trench #3 (8')	S	07-10-17 00:00		557206-017
Trench #4 (0-1')	S	07-10-17 00:00		557206-018
Trench #4 (1')	S	07-10-17 00:00		557206-019
Trench #4 (2')	S	07-10-17 00:00		557206-020
Trench #4 (4')	S	07-10-17 00:00		557206-021
Trench #4 (6')	S	07-10-17 00:00		557206-022
Trench #4 (8')	S	07-10-17 00:00		557206-023
Trench #4 (10')	S	07-10-17 00:00		557206-024
Trench #5 (0-1')	S	07-10-17 00:00		557206-025
Trench #5 (1')	S	07-10-17 00:00		557206-026
Trench #5 (2')	S	07-10-17 00:00		557206-027
Trench #5 (4')	S	07-10-17 00:00		557206-028
Trench #5 (6')	S	07-10-17 00:00		557206-029
Trench #5 (12')	S	07-10-17 00:00		557206-032
Trench #5 (14')	S	07-10-17 00:00		557206-033
Trench #6 (0-1')	S	07-10-17 00:00		557206-034
Trench #6 (10')	S	07-10-17 00:00		557206-040
Trench #7 (0-1')	S	07-10-17 00:00		557206-041
Trench #7 (8')	S	07-10-17 00:00		557206-046
Trench #5 (8')	S	07-10-17 00:00		Not Analyzed
Trench #5 (10')	S	07-10-17 00:00		Not Analyzed
Trench #6 (1')	S	07-10-17 00:00		Not Analyzed
Trench #6 (2')	S	07-10-17 00:00		Not Analyzed
Trench #6 (4')	S	07-10-17 00:00		Not Analyzed
Trench #6 (6')	S	07-10-17 00:00		Not Analyzed
Trench #6 (8')	S	07-10-17 00:00		Not Analyzed
Trench #7 (1')	S	07-10-17 00:00		Not Analyzed

Trench #7 (2')	S	07-10-17 00:00	Not Analyzed
Trench #7 (4')	S	07-10-17 00:00	Not Analyzed
Trench #7 (6')	S	07-10-17 00:00	Not Analyzed

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Beowulf 33 State Com 601H

Project ID:
Work Order Number(s): *557206*

Report Date: *14-JUL-17*
Date Received: *07/11/2017*

Sample receipt non conformances and comments:

07/12/17: Per Jeanne Finch, run Chlorides that were originally marked on the COC on hold.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3022018 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3022023 Inorganic Anions by EPA 300/300.1

Lab Sample ID 557206-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 557206-001, -005, -006, -011, -012, -017, -018, -024, -025, -033, -034, -040, -041, -046.

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

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:

Contact: Ike Tavarez

Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am

Report Date: 14-JUL-17

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-001		557206-002		557206-003		557206-004		557206-005		557206-006	
	Field Id:	Trench #1 (0-1')		Trench #1 (2')		Trench #1 (4')		Trench #1 (6')		Trench #1 (8')		Trench #2 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	***Extracted:***	Jul-11-17 16:00								Jul-11-17 16:00		Jul-11-17 16:00	
	Analyzed:	Jul-11-17 17:44								Jul-11-17 18:00		Jul-12-17 07:39	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
Toluene		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
Ethylbenzene		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
m,p-Xylenes		<0.00398	0.00398							<0.00401	0.00401	<0.00702	0.00702
o-Xylene		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
Total Xylenes		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
Total BTEX		<0.00199	0.00199							<0.00200	0.00200	<0.00351	0.00351
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-11-17 17:00		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-11-17 17:00		Jul-11-17 17:00	
	Analyzed:	Jul-11-17 18:00		Jul-12-17 14:35		Jul-12-17 14:58		Jul-12-17 15:14		Jul-11-17 17:37		Jul-11-17 18:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1540	24.6	16.4	5.00	17.9	5.00	18.4	5.00	107	4.93	781	4.96
TPH By SW8015 Mod	***Extracted:***	Jul-11-17 11:00								Jul-11-17 11:00		Jul-11-17 11:00	
	Analyzed:	Jul-11-17 13:22								Jul-11-17 14:23		Jul-11-17 14:44	
	Units/RL:	mg/kg	RL							mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0							<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		21.2	15.0							<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0							<15.0	15.0	<15.0	15.0
Total TPH		21.2	15.0							<15.0	15.0	<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 14-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-007		557206-008		557206-009		557206-010		557206-011		557206-012	
	Field Id:	Trench #2 (1')		Trench #2 (2')		Trench #2 (4')		Trench #2 (6')		Trench #2 (8')		Trench #3 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	***Extracted:***									Jul-11-17 16:00		Jul-11-17 16:00	
	Analyzed:									Jul-12-17 07:56		Jul-11-17 18:48	
	Units/RL:									mg/kg	RL	mg/kg	RL
Benzene										<0.00344	0.00344	<0.00202	0.00202
Toluene										<0.00344	0.00344	<0.00202	0.00202
Ethylbenzene										<0.00344	0.00344	<0.00202	0.00202
m,p-Xylenes										<0.00687	0.00687	<0.00404	0.00404
o-Xylene										<0.00344	0.00344	<0.00202	0.00202
Total Xylenes										<0.00344	0.00344	<0.00202	0.00202
Total BTEX										<0.00344	0.00344	<0.00202	0.00202
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-11-17 17:00		Jul-11-17 17:00	
	Analyzed:	Jul-12-17 15:21		Jul-12-17 15:29		Jul-12-17 16:06		Jul-12-17 16:13		Jul-11-17 18:16		Jul-11-17 18:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1150	5.00	6.01	5.00	6.13	5.00	<5.00	5.00	14.3	4.98	2600	25.0
TPH By SW8015 Mod	***Extracted:***									Jul-11-17 11:00		Jul-11-17 11:00	
	Analyzed:									Jul-11-17 15:04		Jul-11-17 15:25	
	Units/RL:									mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)										<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)										<14.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)										<14.9	14.9	<15.0	15.0
Total TPH										<14.9	14.9	<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 14-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-013		557206-014		557206-015		557206-016		557206-017		557206-018	
	Field Id:	Trench #3 (1')		Trench #3 (2')		Trench #3 (4')		Trench #3 (6')		Trench #3 (8')		Trench #4 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	***Extracted:***									Jul-11-17 16:00		Jul-11-17 16:00	
	Analyzed:									Jul-11-17 19:05		Jul-11-17 19:20	
	Units/RL:									mg/kg	RL	mg/kg	RL
Benzene										<0.00200	0.00200	<0.00201	0.00201
Toluene										<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene										<0.00200	0.00200	<0.00201	0.00201
m,p-Xylenes										<0.00401	0.00401	<0.00402	0.00402
o-Xylene										<0.00200	0.00200	<0.00201	0.00201
Total Xylenes										<0.00200	0.00200	<0.00201	0.00201
Total BTEX										<0.00200	0.00200	<0.00201	0.00201
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-11-17 17:00		Jul-11-17 17:00	
	Analyzed:	Jul-12-17 16:21		Jul-12-17 16:29		Jul-12-17 16:37		Jul-12-17 16:44		Jul-11-17 18:46		Jul-11-17 18:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2750	25.0	67.3	5.00	7.90	5.00	6.39	5.00	11.8	4.94	3830	24.9
TPH By SW8015 Mod	***Extracted:***									Jul-11-17 11:00		Jul-11-17 11:00	
	Analyzed:									Jul-11-17 15:46		Jul-11-17 16:06	
	Units/RL:									mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)										<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)										<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)										<15.0	15.0	<15.0	15.0
Total TPH										<15.0	15.0	<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 14-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-019		557206-020		557206-021		557206-022		557206-023		557206-024	
	Field Id:	Trench #4 (1')		Trench #4 (2')		Trench #4 (4')		Trench #4 (6')		Trench #4 (8')		Trench #4 (10')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	***Extracted:***											Jul-11-17 16:00	
	Analyzed:											Jul-11-17 19:36	
	Units/RL:											mg/kg	RL
Benzene												<0.00198	0.00198
Toluene												<0.00198	0.00198
Ethylbenzene												<0.00198	0.00198
m,p-Xylenes												<0.00396	0.00396
o-Xylene												<0.00198	0.00198
Total Xylenes												<0.00198	0.00198
Total BTEX												<0.00198	0.00198
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-11-17 17:00	
	Analyzed:	Jul-12-17 17:07		Jul-12-17 17:15		Jul-12-17 17:38		Jul-12-17 17:46		Jul-12-17 17:53		Jul-11-17 19:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3080	25.0	1380	25.0	252	4.95	35.9	4.94	108	4.91	26.8	4.99
TPH By SW8015 Mod	***Extracted:***											Jul-11-17 11:00	
	Analyzed:											Jul-11-17 16:27	
	Units/RL:											mg/kg	RL
Gasoline Range Hydrocarbons (GRO)												<15.0	15.0
Diesel Range Organics (DRO)												<15.0	15.0
Oil Range Hydrocarbons (ORO)												<15.0	15.0
Total TPH												<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:

Contact: Ike Tavarez

Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am

Report Date: 14-JUL-17

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557206-025		557206-026		557206-027		557206-028		557206-029		557206-032	
	Field Id:	Trench #5 (0-1')		Trench #5 (1')		Trench #5 (2')		Trench #5 (4')		Trench #5 (6')		Trench #5 (12')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00	
BTEX by EPA 8021B	***Extracted:***	Jul-11-17 16:00											
	Analyzed:	Jul-11-17 19:53											
	Units/RL:	mg/kg	RL										
Benzene		<0.00201	0.00201										
Toluene		<0.00201	0.00201										
Ethylbenzene		<0.00201	0.00201										
m,p-Xylenes		<0.00402	0.00402										
o-Xylene		<0.00201	0.00201										
Total Xylenes		<0.00201	0.00201										
Total BTEX		<0.00201	0.00201										
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-11-17 17:00		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-12-17 13:30		Jul-13-17 12:30	
	Analyzed:	Jul-11-17 19:09		Jul-12-17 18:01		Jul-12-17 18:09		Jul-12-17 18:16		Jul-12-17 18:24		Jul-13-17 18:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5030	49.5	3370	24.8	2340	24.8	875	5.00	399	4.99	568	4.96
TPH By SW8015 Mod	***Extracted:***	Jul-11-17 11:00											
	Analyzed:	Jul-11-17 16:47											
	Units/RL:	mg/kg	RL										
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0										
Diesel Range Organics (DRO)		187	15.0										
Oil Range Hydrocarbons (ORO)		<15.0	15.0										
Total TPH		187	15.0										

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557206

Tetra Tech- Midland, Midland, TX

Project Name: Beowulf 33 State Com 601H

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Tue Jul-11-17 10:37 am
Report Date: 14-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested																	
	Lab Id:	557206-033		557206-034		557206-040		557206-041		557206-046							
	Field Id:	Trench #5 (14')		Trench #6 (0-1')		Trench #6 (10')		Trench #7 (0-1')		Trench #7 (8')							
	Depth:																
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL							
	Sampled:	Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00		Jul-10-17 00:00							
BTEX by EPA 8021B	***Extracted:***	Jul-11-17 16:00		Jul-11-17 16:00		Jul-11-17 16:00		Jul-11-17 16:00		Jul-11-17 16:00							
	Analyzed:	Jul-11-17 20:41		Jul-12-17 08:12		Jul-11-17 17:27		Jul-11-17 21:14		Jul-11-17 21:30							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00202	0.00202	<0.00337	0.00337	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199						
Toluene		<0.00202	0.00202	<0.00337	0.00337	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199						
Ethylbenzene		<0.00202	0.00202	<0.00337	0.00337	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199						
m,p-Xylenes		<0.00404	0.00404	<0.00673	0.00673	<0.00401	0.00401	<0.00401	0.00401	<0.00398	0.00398						
o-Xylene		<0.00202	0.00202	<0.00337	0.00337	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199						
Total Xylenes		<0.00202	0.00202	<0.00337	0.00337	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199						
Total BTEX		<0.00202	0.00202	<0.00337	0.00337	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199						
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-11-17 17:00		Jul-11-17 17:00		Jul-11-17 17:00		Jul-11-17 17:00		Jul-11-17 17:00							
	Analyzed:	Jul-11-17 19:17		Jul-11-17 19:48		Jul-11-17 19:25		Jul-11-17 19:55		Jul-11-17 20:18							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		98.5	4.97	2030	24.9	9.98	4.99	1200	24.9	44.0	4.99						
TPH By SW8015 Mod	***Extracted:***	Jul-11-17 11:00		Jul-11-17 11:00		Jul-11-17 11:00		Jul-11-17 11:00		Jul-11-17 11:00							
	Analyzed:	Jul-11-17 17:07		Jul-11-17 18:07		Jul-11-17 18:26		Jul-11-17 18:46		Jul-11-17 19:06							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0						
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	66.0	15.0	<15.0	15.0						
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0						
Total TPH		<15.0	15.0	<14.9	14.9	<15.0	15.0	66.0	15.0	<15.0	15.0						

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

+ NELAC certification not offered for this compound.

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

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206,

Project ID:

Lab Batch #: 3022004 **Sample:** 557206-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 13:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.8	114	70-135	
o-Terphenyl	58.7	49.9	118	70-135	

Lab Batch #: 3022004 **Sample:** 557206-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 14:23

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.7	111	70-135	
o-Terphenyl	57.0	49.9	114	70-135	

Lab Batch #: 3022004 **Sample:** 557206-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 14:44

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.7	109	70-135	
o-Terphenyl	55.8	49.9	112	70-135	

Lab Batch #: 3022004 **Sample:** 557206-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 15:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.6	111	70-135	
o-Terphenyl	56.6	49.8	114	70-135	

Lab Batch #: 3022004 **Sample:** 557206-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 15:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.9	127	70-135	
o-Terphenyl	64.9	50.0	130	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206,

Project ID:

Lab Batch #: 3022004 **Sample:** 557206-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 15:46

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.9	120	70-135	
o-Terphenyl	62.1	50.0	124	70-135	

Lab Batch #: 3022004 **Sample:** 557206-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 16:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

Lab Batch #: 3022004 **Sample:** 557206-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 16:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	57.9	49.9	116	70-135	

Lab Batch #: 3022004 **Sample:** 557206-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 16:47

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.9	112	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 3022004 **Sample:** 557206-033 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 17:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.8	110	70-135	
o-Terphenyl	57.5	49.9	115	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206,

Project ID:

Lab Batch #: 3022018 **Sample:** 557206-040 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 17:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0344	0.0300	115	80-120	

Lab Batch #: 3022018 **Sample:** 557206-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 17:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 3022018 **Sample:** 557206-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 18:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0349	0.0300	116	80-120	

Lab Batch #: 3022004 **Sample:** 557206-034 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 18:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.6	111	70-135	
o-Terphenyl	57.3	49.8	115	70-135	

Lab Batch #: 3022004 **Sample:** 557206-040 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 18:26

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.7	114	70-135	
o-Terphenyl	59.1	49.9	118	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206,

Project ID:

Lab Batch #: 3022004 **Sample:** 557206-041 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 18:46

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.7	112	70-135	
o-Terphenyl	57.9	49.9	116	70-135	

Lab Batch #: 3022018 **Sample:** 557206-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 18:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 3022018 **Sample:** 557206-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 19:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 3022004 **Sample:** 557206-046 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 19:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.8	108	70-135	
o-Terphenyl	56.2	49.9	113	70-135	

Lab Batch #: 3022018 **Sample:** 557206-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 19:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0343	0.0300	114	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206,

Project ID:

Lab Batch #: 3022018 **Sample:** 557206-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 19:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 3022018 **Sample:** 557206-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 19:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	80-120	
4-Bromofluorobenzene	0.0274	0.0300	91	80-120	

Lab Batch #: 3022018 **Sample:** 557206-033 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 20:41

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0250	0.0300	83	80-120	
4-Bromofluorobenzene	0.0260	0.0300	87	80-120	

Lab Batch #: 3022018 **Sample:** 557206-041 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 21:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0259	0.0300	86	80-120	
4-Bromofluorobenzene	0.0341	0.0300	114	80-120	

Lab Batch #: 3022018 **Sample:** 557206-046 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 21:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene	0.0253	0.0300	84	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206,

Project ID:

Lab Batch #: 3022018 **Sample:** 557206-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/12/17 07:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 3022018 **Sample:** 557206-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/12/17 07:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 3022018 **Sample:** 557206-034 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/12/17 08:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0249	0.0300	83	80-120	
4-Bromofluorobenzene	0.0278	0.0300	93	80-120	

Lab Batch #: 3022004 **Sample:** 727483-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 12:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	59.6	50.0	119	70-135	

Lab Batch #: 3022018 **Sample:** 727492-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 17:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206,

Project ID:

Lab Batch #: 3022004 **Sample:** 727483-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 12:41

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	62.5	50.0	125	70-135	

Lab Batch #: 3022018 **Sample:** 727492-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 15:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

Lab Batch #: 3022004 **Sample:** 727483-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 13:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	62.1	50.0	124	70-135	

Lab Batch #: 3022018 **Sample:** 727492-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/11/17 16:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	

Lab Batch #: 3022004 **Sample:** 557206-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 13:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	57.1	50.0	114	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Beowulf 33 State Com 601H

Work Orders : 557206,

Project ID:

Lab Batch #: 3022018 **Sample:** 557206-040 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 16:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0345	0.0300	115	80-120	

Lab Batch #: 3022004 **Sample:** 557206-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 14:03

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.8	129	70-135	
o-Terphenyl	64.4	49.9	129	70-135	

Lab Batch #: 3022018 **Sample:** 557206-040 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/11/17 16:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0334	0.0300	111	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Beowulf 33 State Com 601H

Work Order #: 557206 **Project ID:**

Analyst: ALJ **Date Prepared:** 07/11/2017 **Date Analyzed:** 07/11/2017

Lab Batch ID: 3022018 **Sample:** 727492-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00200	0.100	0.115	115	0.0998	0.121	121	5	70-130	35	
Toluene	<0.00200	0.100	0.111	111	0.0998	0.108	108	3	70-130	35	
Ethylbenzene	<0.00200	0.100	0.115	115	0.0998	0.118	118	3	71-129	35	
m,p-Xylenes	<0.00401	0.200	0.206	103	0.200	0.205	103	0	70-135	35	
o-Xylene	<0.00200	0.100	0.114	114	0.0998	0.120	120	5	71-133	35	

Analyst: MGO **Date Prepared:** 07/11/2017 **Date Analyzed:** 07/11/2017

Lab Batch ID: 3022023 **Sample:** 727493-1-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	254	102	2	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

BS / BSD Recoveries

Project Name: Beowulf 33 State Com 601H

Work Order #: 557206 **Project ID:**

Analyst: MGO **Date Prepared:** 07/12/2017 **Date Analyzed:** 07/12/2017

Lab Batch ID: 3022109 **Sample:** 727553-1-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	259	104	0	90-110	20	

Analyst: MGO **Date Prepared:** 07/13/2017 **Date Analyzed:** 07/13/2017

Lab Batch ID: 3022302 **Sample:** 727632-1-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	255	102	250	256	102	0	90-110	20	

Analyst: ARM **Date Prepared:** 07/11/2017 **Date Analyzed:** 07/11/2017

Lab Batch ID: 3022004 **Sample:** 727483-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1150	115	1000	1100	110	4	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1120	112	1000	1100	110	2	70-135	35	

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: Beowulf 33 State Com 601H

Work Order # : 557206 **Project ID:**

Lab Batch ID: 3022018 **QC- Sample ID:** 557206-040 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/11/2017 **Date Prepared:** 07/11/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00202	0.101	0.103	102	0.100	0.119	119	14	70-130	35	
Toluene	<0.00202	0.101	0.0942	93	0.100	0.103	103	9	70-130	35	
Ethylbenzene	<0.00202	0.101	0.101	100	0.100	0.118	118	16	71-129	35	
m,p-Xylenes	<0.00403	0.202	0.181	90	0.200	0.203	102	11	70-135	35	
o-Xylene	<0.00202	0.101	0.0996	99	0.100	0.110	110	10	71-133	35	

Lab Batch ID: 3022023 **QC- Sample ID:** 557206-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/11/2017 **Date Prepared:** 07/11/2017 **Analyst:** MGO

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	107	247	378	110	247	387	113	2	90-110	20	X

Lab Batch ID: 3022023 **QC- Sample ID:** 557206-040 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/11/2017 **Date Prepared:** 07/11/2017 **Analyst:** MGO

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	9.98	250	284	110	250	286	110	1	90-110	20	

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: Beowulf 33 State Com 601H

Work Order # : 557206 **Project ID:**

Lab Batch ID: 3022109 **QC- Sample ID:** 557206-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/12/2017 **Date Prepared:** 07/12/2017 **Analyst:** MGO

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	16.4	250	273	103	250	275	103	1	90-110	20	

Lab Batch ID: 3022109 **QC- Sample ID:** 557206-016 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/12/2017 **Date Prepared:** 07/12/2017 **Analyst:** MGO

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	6.39	250	270	105	250	269	105	0	90-110	20	

Lab Batch ID: 3022302 **QC- Sample ID:** 557114-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/13/2017 **Date Prepared:** 07/13/2017 **Analyst:** MGO

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	99.7	249	362	105	249	364	106	1	90-110	20	

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: Beowulf 33 State Com 601H

Work Order # : 557206 **Project ID:**

Lab Batch ID: 3022302 **QC- Sample ID:** 557114-018 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/13/2017 **Date Prepared:** 07/13/2017 **Analyst:** MGO

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	67.3	248	338	109	248	346	112	2	90-110	20	X

Lab Batch ID: 3022004 **QC- Sample ID:** 557206-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/11/2017 **Date Prepared:** 07/11/2017 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1030	103	998	1060	106	3	70-135	35	
Diesel Range Organics (DRO)	21.2	1000	1000	98	998	1070	105	7	70-135	35	

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

Tetra Tech, Inc.

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

557206

Client Name: EOG / DET Trucking

Site Manager: Ike Tavarez

Project Name: Beowulf 33 State Com 601H

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

Project #:

Invoice to: Tetra Tech

Receiving Laboratory: Xenco Midland Tx

Sampler Signature:

Comments: Rush

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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)
	Trench #1 (0-1')	7/10/2017			X					X		1	N
	Trench #1 (2 ')	7/10/2017			X					X		1	N
	Trench #1 (4')	7/10/2017			X					X		1	N
	Trench #1 (6')	7/10/2017			X					X		1	N
	Trench #1 (8')	7/10/2017			X					X		1	N
	Trench #2 (0-1')	7/10/2017			X					x		1	N
	Trench #2 (1')	7/10/2017			X					X		1	N
	Trench #2 (2')	7/10/2017			X					X		1	N
	Trench #2 (4')	7/10/2017			X					X		1	N
	Trench #2 (6')	7/10/2017			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
X			X												X			
															X			
															X			
															X			
															X			
X			X												X			
X			X												X			
															X			
															X			
															X			
															X			

Relinquished by: Date: 7-11-17 Time: 10:40
Received by: Date: 7-11-17 Time: 10:37

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

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

LAB USE ONLY
Sample Temperature

REMARKS:
STANDARD
[X] RUSH: Same Day 24 hr 48 hr 72 hr
[ ] Rush Charges Authorized
[ ] Special Report Limits or TRRP Report

'ERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 7.0 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.0

Final 1.002

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557206

Client Name: EOG / DET Trucking	Site Manager: Ike Tavarez
Project Name: Beowulf 33 State Com 601H	
Project Location: (county, state) Lea County, New Mexico	Project #:
Invoice to: Tetra Tech	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature:
Comments: Rush	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE (YEAR: 2017)	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)
	Trench #2 (8')	7/10/2017			X					X		1	N
	Trench #3 (0-1')	7/10/2017			X					X		1	N
	Trench #3 (1')	7/10/2017			X					X		1	N
	Trench #3 (2')	7/10/2017			X					X		1	N
	Trench #3 (4')	7/10/2017			X					X		1	N
	Trench #3 (6')	7/10/2017			X					X		1	N
	Trench #3 (8')	7/10/2017			X					x		1	N
	Trench #4 (0-1')	7/10/2017			X					X		1	N
	Trench #4 (1')	7/10/2017			X					X		1	N
	Trench #4 (2')	7/10/2017			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					
X			X												X								
X			X												X								
															X								
															X								
															X								
															X								
															X								
															X								
X			X												X								
X			X												X								
															X								
															X								

Relinquished by: Date: 7-11-17 Time: 10:40
Received by: Maurechmith Date: 7-11-17 Time: 10:40

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

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

LAB USE ONLY
Sample Temperature

REMARKS:
STANDARD
[X] RUSH: Same Day (24 hr) 48 hr 72 hr
[ ] Rush Charges Authorized
[ ] Special Report Limits or TRRP Report

D DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 7.0 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.0

Final 1.002

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557205

Client Name:	EOG / DET Trucking
Site Manager:	Ike Tavarez
Project Name:	Beowulf 33 State Com 601H
Project Location: (county, state)	Lea County, New Mexico
Project #:	
Invoice to:	Tetra Tech
Receiving Laboratory:	Xenco Midland Tx
Sampler Signature:	
Comments:	Rush

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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)
	Trench #4 (4 ')	7/10/2017			X					X		1	N
	Trench #4 (6')	7/10/2017			X					X		1	N
	Trench #4 (8')	7/10/2017			X					X		1	N
	Trench #4 (10')	7/10/2017			X					X		1	N
	Trench #5 (0-1')	7/10/2017			X					X		1	N
	Trench #5 (1')	7/10/2017			X					x		1	N
	Trench #5 (2')	7/10/2017			X					X		1	N
	Trench #5 (4')	7/10/2017			X					X		1	N
	Trench #5 (6')	7/10/2017			X					X		1	N
	Trench #5 (8')	7/10/2017			X					X		1	N

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B / BTEX 8260B	TPH TX1005 (Ext to C35)	TRH 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	
X		X												X				
														X				
														X				
														X				
														X				
														X				
														X				
														X				
														X				
														X				
														X				

Relinquished by: Date: 7-11-17 Time: 10:40
Received by: Shaunedsmith Date: 7-11-17 Time: 10:37

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

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

LAB USE ONLY
Sample Temperature

REMARKS:
STANDARD
[X] RUSH: Same Day 24 hr 48 hr 72 hr
[ ] Rush Charges Authorized
[ ] Special Report Limits or TRRP Report

[ ] HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL CO

Temp: 5.7.0 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.0

Final 1.002

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557204

Client Name:	EOG / D&T Trucking
Site Manager:	Ike Tavarez
Project Name:	Beowulf 33 State Com 601H
Project Location: (county, state)	Lea County, New Mexico
Project #:	
Invoice to:	Tetra Tech
Receiving Laboratory:	Xenco Midland Tx
Sampler Signature:	
Comments:	Rush

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	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			
	Trench #5 (10')	7/10/2017			X					X	1	N															X					
	Trench #5 (12')	7/10/2017			X					X	1	N															X					
	Trench #5 (14')	7/10/2017			X					X	1	N															X					
	Trench #6 (0-1')	7/10/2017			X					X	1	N	X		X												X					
	Trench #6 (1')	7/10/2017			X					X	1	N	X		X												X					
	Trench #6 (2')	7/10/2017			X					X	1	N															X					
	Trench #6 (4')	7/10/2017			X					x	1	N															X					
	Trench #6 (6')	7/10/2017			X					X	1	N															X					
	Trench #6 (8')	7/10/2017			X					X	1	N															X					
	Trench #6 (10')	7/10/2017			X					X	1	N	X		X												X					

Relinquished by:	Date: 7-11-17	Time: 1040	Received by: Maurice Smith
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 7-11-17 Time: 10:37

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

X RUSH: Same Day 24 hr 48 hr 72 hr

Rush Charges Authorized

Special Report Limits or TRRP Report

FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 7.0 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 5.0

Final 1.002

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557208

Client Name: EOG / D&T Trucking	Site Manager: Ike Tavarez
Project Name: Beowulf 33 State Com 601H	
Project Location: (county, state) Lea County, New Mexico	Project #:
Invoice to: Tetra Tech	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature:
Comments: Rush	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	# CONTAINERS	FILTERED (Y/N)
	Trench #7 (0-1')	7/10/2017			X					X	1	N
	Trench #7 (1')	7/10/2017			X					X	1	N
	Trench #7 (2')	7/10/2017			X					X	1	N
	Trench #7 (4')	7/10/2017			X					X	1	N
	Trench #7 (6')	7/10/2017			X					X	1	N
	Trench #7 (8')	7/10/2017			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				
X			X												X							
															X							
															X							
															X							
															X							
															X							
															X							
X			X												X							

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	7-11-17	10:40	[signature]	7-11-17	10:37
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

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

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

AND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 7.0 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 5.0

Final 1.002

Page 30 of 36

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557206

Client Name: EOG / DET Trucking

Site Manager: Ike Tavarez

Project Name: Beowulf 33 State Com 601H

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

Project #:

Invoice to: Tetra Tech

Receiving Laboratory: Xenco Midland Tx

Sampler Signature:

Comments: Rush

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE HCL	PRESERVATIVE HNO_3	PRESERVATIVE ICE	PRESERVATIVE None	PRESERVATIVE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B	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	PCBs 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance
	Trench #1 (0-1')	7/10/2017			X					X		1	N	X		X												X			
	Trench #1 (2 ')	7/10/2017			X					X		1	N															X			
	Trench #1 (4')	7/10/2017			X					X		1	N															X			
	Trench #1 (6')	7/10/2017			X					X		1	N															X			
	Trench #1 (8')	7/10/2017			X					X		1	N															X			
	Trench #2 (0-1')	7/10/2017			X					X		1	N	X		X												X			
	Trench #2 (1')	7/10/2017			X					x		1	N	X		X												X			
	Trench #2 (2')	7/10/2017			X					X		1	N															X			
	Trench #2 (4')	7/10/2017			X					X		1	N															X			
	Trench #2 (6')	7/10/2017			X					X		1	N															X			

Relinquished by: Date: 7-11-17 Time: 10:40

Received by: Shawne Smith Date: 7-11-17 Time: 10:37

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

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

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

ORIGINAL COPY

Temp: 5.2 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 5.0

LIVERED FEDEX UPS Tracking #:

Final 1.002

Page 31 of 36

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557206

Client Name: EOG (DET Trucking)

Site Manager: Ike Tavarez

Project Name: Beowulf 33 State Com 601H

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

Project #:

Invoice to: Tetra Tech

Receiving Laboratory: Xenco Midland Tx

Sampler Signature:

Comments: Rush

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	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	Sulfate	TDS	General Water Chemistry (see attached list)	Anion/Cation Balance			
	Trench #2 (8')	7/10/2017			X					X		1	N		X													X							
	Trench #3 (0-1')	7/10/2017			X					X		1	N		X		X												X							
	Trench #3 (1')	7/10/2017			X					X		1	N																X							
	Trench #3 (2')	7/10/2017			X					X		1	N																X							
	Trench #3 (4')	7/10/2017			X					X		1	N																X							
	Trench #3 (6')	7/10/2017			X					X		1	N																X							
	Trench #3 (8')	7/10/2017			X					x		1	N																X							
	Trench #4 (0-1')	7/10/2017			X					X		1	N		X		X												X							
	Trench #4 (1')	7/10/2017			X					X		1	N																X							
	Trench #4 (2')	7/10/2017			X					X		1	N																X							

Relinquished by: Date: 7-11-17 Time: 10:40 Received by: Date: 7-11-17 Time: 10:40

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

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB USE ONLY

Sample Temperature

REMARKS:
STANDARD

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

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 5.2 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.0

Final 1.002

Analysis Request of Chain of Custody Record

Page 3 of 6

Tetra Tech, Inc.

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

557208

Client Name:	EOG / DET Trucking	Site Manager:	Ike Tavarez
Project Name:	Beowulf 33 State Com 601H		
Project Location: (county, state)	Lea County, New Mexico	Project #:	
Invoice to:	Tetra Tech		
Receiving Laboratory:	Xenco Midland Tx	Sampler Signature:	
Comments:	Rush		

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)
	Trench #4 (4 ')	7/10/2017			X					X		1	N
	Trench #4 (6')	7/10/2017			X					X		1	N
	Trench #4 (8')	7/10/2017			X					X		1	N
	Trench #4 (10')	7/10/2017			X					X		1	N
	Trench #5 (0-1')	7/10/2017			X					X		1	N
	Trench #5 (1')	7/10/2017			X					x		1	N
	Trench #5 (2')	7/10/2017			X					X		1	N
	Trench #5 (4')	7/10/2017			X					X		1	N
	Trench #5 (6')	7/10/2017			X					X		1	N
	Trench #5 (8')	7/10/2017			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				
X		X												X							
														X							
														X							
														X							
X		X												X							
														X							
														X							✓
														X							✓
														X							✓
														X							✓
														X							✓

Final 1.002

Page 33 of 36

Relinquished by:	Date: 7-11-17	Time: 1040	Received by: Shawn Smith
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 7-11-17 Time: 10:37

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

[X] RUSH: Same Day (24 hr) 48 hr 72 hr

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

( ) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL CO

Temp: 5.2 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 5.0

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557204

Client Name: EOG / D&T Trucking

Site Manager: Ike Tavarez

Project Name: Beowulf 33 State Com 601H

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

Project #:

Invoice to: Tetra Tech

Receiving Laboratory: Xenco Midland Tx

Sampler Signature:

Comments: Rush

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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)
	Trench #5 (10')	7/10/2017			X					X		1	N
	Trench #5 (12')	7/10/2017			X					X		1	N
	Trench #5 (14')	7/10/2017			X					X		1	N
	Trench #6 (0-1')	7/10/2017			X					X		1	N
	Trench #6 (1')	7/10/2017			X					X		1	N
	Trench #6 (2')	7/10/2017			X					X		1	N
	Trench #6 (4')	7/10/2017			X					x		1	N
	Trench #6 (6')	7/10/2017			X					X		1	N
	Trench #6 (8')	7/10/2017			X					X		1	N
	Trench #6 (10')	7/10/2017			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				
															X							
															X							
															X							
X	X	X	X												X							
X	X	X	X												X							
															X							
															X							
															X							
															X							
															X							
X	X	X	X												X							

Relinquished by: Date: 7-11-17 Time: 1040

Received by: Maurice Smith Date: 7-11-17 Time: 10:37

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

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

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 5.2 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.0

Final 1.002

Analysis Request of Chain of Custody Record

Page 5 of 6

Tetra Tech, Inc.

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

557208

Client Name: EOG / D&T Trucking	Site Manager: Ike Tavarez
Project Name: Beowulf 33 State Com 601H	
Project Location: (county, state) Lea County, New Mexico	Project #:
Invoice to: Tetra Tech	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature:
Comments: Rush	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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)
	Trench #7 (0-1')	7/10/2017			X					X		1	N
	Trench #7 (1')	7/10/2017			X					X		1	N
	Trench #7 (2')	7/10/2017			X					X		1	N
	Trench #7 (4')	7/10/2017			X					X		1	N
	Trench #7 (6')	7/10/2017			X					X		1	N
	Trench #7 (8')	7/10/2017			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				
X			X												X						
			X												X						
															X						
															X						
															X						
															X						
X			X												X						

Relinquished by: Date: 7-11-17 Time: 10:40 — Received by: Date: 7-11-17 Time: 10:37

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

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

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

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

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

AND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 5.2 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 5.0

Final 1.002

Page 35 of 36

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 07/11/2017 10:37:00 AM

Work Order #: 557206

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

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

Analyst: ss

PH Device/Lot#:

Checklist completed by: Shawnee Smith Date: 07/11/2017

Checklist reviewed by: Mike Kimmel Date: 07/11/2017

Analytical Report 557682

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

EOG- Beowulf 33 State Com 6

212C-MD-00902

18-JUL-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

18-JUL-17

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

Reference: XENCO Report No(s): **557682**
EOG- Beowulf 33 State Com 6
Project Address: Lea County, New Mexico

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) 557682. 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. 557682 will be filed for 60 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 557682

Tetra Tech- Midland, Midland, TX

EOG- Beowulf 33 State Com 6

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Pasture Area (3'BEB) Center Sample	S	07-11-17 00:00		557682-001
Pasture Area South Sidewall Sample	S	07-11-17 00:00		557682-002
Pasture Area North Sidewall Sample	S	07-11-17 00:00		557682-003
Pasture Area East Sidewall Sample	S	07-11-17 00:00		557682-004
(Areas of T1, T2 & T3) South East Sidewall	S	07-12-17 00:00		557682-005
(Areas of T1, T2 & T3) South West Sidewall	S	07-12-17 00:00		557682-006
(Areas of T1, T2 & T3) North West Sidewal	S	07-12-17 00:00		557682-007
(Areas of T1, T2 & T3) North East Sidewall	S	07-12-17 00:00		557682-008
(Areas of T1, T2 & T3) East Sidewall Sampl	S	07-12-17 00:00		557682-009
(Areas of T1, T2 & T3) West Sidewall Samp	S	07-12-17 00:00		557682-010
(Areas of T1, T2 & T3) South Bottomhole Sa	S	07-12-17 00:00		557682-011
(Areas of T1, T2 & T3) Center Bottomhole S	S	07-12-17 00:00		557682-012
(Areas of T1, T2 & T3) North Bottomhole Sa	S	07-12-17 00:00		557682-013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 557682

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Beowulf 33 State Com 6

Project Id: 212C-MD-00902
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Mon Jul-17-17 09:51 am
Report Date: 18-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557682-001		557682-002		557682-003		557682-004		557682-005		557682-006	
	Field Id:	Pasture Area (3'BEB) Center		Pasture Area South Sidewall		Pasture Area North Sidewall		Pasture Area East Sidewall S		Areas of T1, T2 & T3) Soutl		Areas of T1, T2 & T3) Soutl	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-11-17 00:00		Jul-11-17 00:00		Jul-11-17 00:00		Jul-11-17 00:00		Jul-12-17 00:00		Jul-12-17 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-17-17 12:30		Jul-17-17 12:30		Jul-17-17 12:30		Jul-17-17 12:30		Jul-17-17 12:30		Jul-17-17 12:30	
	Analyzed:	Jul-17-17 14:05		Jul-17-17 14:28		Jul-17-17 14:36		Jul-17-17 14:44		Jul-17-17 14:51		Jul-17-17 15:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.96	4.96	13.2	4.93	5.22	4.96	14.3	4.94	56.7	4.98	<4.97	4.97

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557682

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Beowulf 33 State Com 6

Project Id: 212C-MD-00902
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Mon Jul-17-17 09:51 am
Report Date: 18-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	557682-007		557682-008		557682-009		557682-010		557682-011		557682-012	
	Field Id:	(Areas of T1, T2 & T3) Nort		Areas of T1, T2 & T3) North		(Areas of T1, T2 & T3) East		(Areas of T1, T2 & T3) West		Areas of T1, T2 & T3) Soutl		Areas of T1, T2 & T3) Cente	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-12-17 00:00		Jul-12-17 00:00		Jul-12-17 00:00		Jul-12-17 00:00		Jul-12-17 00:00		Jul-12-17 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-17-17 12:30		Jul-17-17 12:30		Jul-17-17 12:30		Jul-17-17 12:30		Jul-17-17 12:30		Jul-17-17 12:30	
	Analyzed:	Jul-17-17 15:22		Jul-17-17 15:30		Jul-17-17 15:37		Jul-17-17 15:45		Jul-17-17 15:53		Jul-17-17 16:16	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		12.8	4.97	14.6	4.98	69.0	4.96	6.43	4.95	10.7	4.99	8.29	4.93

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 557682

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Beowulf 33 State Com 6

Project Id: 212C-MD-00902
Contact: Ike Tavarez
Project Location: Lea County, New Mexico

Date Received in Lab: Mon Jul-17-17 09:51 am
Report Date: 18-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	557682-013					
	Field Id:	(Areas of T1, T2 & T3) Nortl					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Jul-12-17 00:00					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-17-17 12:30					
	Analyzed:	Jul-17-17 16:23					
	Units/RL:	mg/kg	RL				
Chloride		251	4.97				

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

+ 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: EOG- Beowulf 33 State Com 6

Work Order #: 557682 **Project ID:** 212C-MD-00902

Analyst: MGO **Date Prepared:** 07/17/2017 **Date Analyzed:** 07/17/2017

Lab Batch ID: 3022477 **Sample:** 727779-1-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	268	107	250	269	108	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: EOG- Beowulf 33 State Com 6

Work Order # : 557682 **Project ID:** 212C-MD-00902

Lab Batch ID: 3022477 **QC- Sample ID:** 557682-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/17/2017 **Date Prepared:** 07/17/2017 **Analyst:** MGO

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	<4.96	248	263	106	248	266	107	1	90-110	20	

Lab Batch ID: 3022477 **QC- Sample ID:** 557682-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/17/2017 **Date Prepared:** 07/17/2017 **Analyst:** MGO

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	10.7	250	274	105	250	276	106	1	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

Tetra Tech, Inc.

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

557682

Client Name: EOG	Site Manager: Ike Tavarez
Project Name: Beowulf 33 State Com 6	
Project Location: (county, state) Lea County, New Mexico	Project #: 212C-MD-00902
Invoice to: Tetra Tech	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature:
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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)
	Pasture Area (3'BEB) Center Sample	7/11/2017			X					X		1	N
	Pasture Area South Sidewall Sample	7/11/2017			X					X		1	N
	Pasture Area North Sidewall Sample	7/11/2017			X					X		1	N
	Pasture Area East Sidewall Sample	7/11/2017			X					X		1	N
	(Areas of T1, T2 & T3) South East Sidewall Sample	7/12/2017			X					X		1	N
	(Areas of T1, T2 & T3) South West Sidewall Sample	7/12/2017			X					x		1	N
	(Areas of T1, T2 & T3) North West Sidewall Sample	7/12/2017			X					X		1	N
	(Areas of T1, T2 & T3) North East Sidewall Sample	7/12/2017			X					X		1	N
	(Areas of T1, T2 & T3) East Sidewall Sample	7/12/2017			X					X		1	N
	(Areas of T1, T2 & T3) West Sidewall Sample	7/12/2017			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							

Relinquished by: Date: 7-17-17 Time: 9:51am
Received by: Date: 7-17-17 Time: 9:51

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

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

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

[X] RUSH: Same Day (24 hr) 48 hr 72 hr

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 5.9 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.7

Final 1.000

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

557682

Client Name: EOG

Site Manager: Ike Tavarez

Project Name: Beowulf 33 State Com 6

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

Project #: 212C-MD-00902

Invoice to: Tetra Tech

Receiving Laboratory: Xenco Midland Tx

Sampler Signature:

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)
	(Areas of T1, T2 & T3) South Bottome Sample (1.5' BEB)	7/12/2017			X					X		1	N
	(Areas of T1, T2 & T3) Center Bottomhole Sample (1.5' BEB)	7/12/2017			X					X		1	N
	(Areas of T1, T2 & T3) North Bottomhole Sample (1.5' BEB)	7/12/2017			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						

Relinquished by: Mike Cuenca Date: 7-17-17 Time: 9:57am

Received by: Brandi Smith Date: 7-17-17 Time: 9:57

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

[X] RUSH: Same Day (24 hr) 48 hr 72 hr

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

D DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 5.9 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 5.7

Final 1.000

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 07/17/2017 09:51:00 AM

Work Order #: 557682

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)?	5.7
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**No**
#21 VOC samples have zero headspace?	**N/A**

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

Analyst: ss

PH Device/Lot#:

Checklist completed by: Shawnee Smith — Date: 07/17/2017

Shawnee Smith

Checklist reviewed by: Kelsey Brooks — Date: 07/17/2017

Kelsey Brooks

Analytical Report 561733

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

EOG- Beowulf 33 State Com 601H

212C-MD-00902

11-SEP-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

11-SEP-17

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

Reference: XENCO Report No(s): **561733**
EOG- Beowulf 33 State Com 601H
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) 561733. 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. 561733 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 561733

Tetra Tech- Midland, Midland, TX

EOG- Beowulf 33 State Com 601H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North Bottom Hole	S	08-28-17 00:00		561733-001
North West Sidewall	S	08-28-17 00:00		561733-002
North East Sidewall	S	08-28-17 00:00		561733-003
Bottom Hole #1	S	08-28-17 00:00		561733-004
Bottom Hole #2	S	08-28-17 00:00		561733-005
South Bottom Hole	S	08-28-17 00:00		561733-006
South West Sidewall	S	08-28-17 00:00		561733-007
South East Sidewall	S	08-28-17 00:00		561733-008
West Sidewall	S	08-28-17 00:00		561733-009
East Sidewall	S	08-28-17 00:00		561733-010
Re-Trench #5 (8')	S	08-28-17 00:00		561733-011

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3027156 Inorganic Anions by EPA 300/300.1

Lab Sample ID 561733-011 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: 561733-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011.

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

Certificate of Analysis Summary 561733

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Beowulf 33 State Com 601H

Project Id: 212C-MD-00902
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Wed Aug-30-17 03:40 pm
Report Date: 11-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	561733-001		561733-002		561733-003		561733-004		561733-005		561733-006	
	Field Id:	North Bottom Hole		North West Sidewall		North East Sidewall		Bottom Hole #1		Bottom Hole #2		South Bottom Hole	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-28-17 00:00		Aug-28-17 00:00		Aug-28-17 00:00		Aug-28-17 00:00		Aug-28-17 00:00		Aug-28-17 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-08-17 11:15		Sep-08-17 11:15		Sep-08-17 11:15		Sep-08-17 11:15		Sep-08-17 11:15		Sep-08-17 11:15	
	Analyzed:	Sep-08-17 12:07		Sep-08-17 12:31		Sep-08-17 12:39		Sep-08-17 12:47		Sep-08-17 12:56		Sep-08-17 13:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		22.1	4.93	<4.98	4.98	<4.98	4.98	64.9	5.00	<4.90	4.90	<4.90	4.90

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 561733

Tetra Tech- Midland, Midland, TX

Project Name: EOG- Beowulf 33 State Com 601H

Project Id: 212C-MD-00902
Contact: Ike Tavarez
Project Location: Lea County NM

Date Received in Lab: Wed Aug-30-17 03:40 pm
Report Date: 11-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	561733-007		561733-008		561733-009		561733-010		561733-011	
	Field Id:	South West Sidewall		South East Sidewall		West Sidewall		East Sidewall		Re-Trench #5 (8')	
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-28-17 00:00		Aug-28-17 00:00		Aug-28-17 00:00		Aug-28-17 00:00		Aug-28-17 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-08-17 11:15		Sep-08-17 11:15		Sep-08-17 11:15		Sep-08-17 11:15		Sep-08-17 11:15	
	Analyzed:	Sep-08-17 13:28		Sep-08-17 13:37		Sep-08-17 13:45		Sep-08-17 13:53		Sep-08-17 14:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.92	4.92	62.2	4.96	18.1	4.95	<4.99	4.99	<4.96	4.96

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

+ NELAC certification not offered for this compound.

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

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282	(602) 437-0330	

BS / BSD Recoveries

Project Name: EOG- Beowulf 33 State Com 601H

Work Order #: 561733 **Project ID:** 212C-MD-00902

Analyst: MNV **Date Prepared:** 09/08/2017 **Date Analyzed:** 09/08/2017

Lab Batch ID: 3027156 **Sample:** 730568-1-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	242	97	1	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: EOG- Beowulf 33 State Com 601H

Work Order # : 561733 **Project ID:** 212C-MD-00902

Lab Batch ID: 3027156 **QC- Sample ID:** 561733-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/08/2017 **Date Prepared:** 09/08/2017 **Analyst:** MNV

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	22.1	247	300	113	247	298	112	1	90-110	20	X

Lab Batch ID: 3027156 **QC- Sample ID:** 561733-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/08/2017 **Date Prepared:** 09/08/2017 **Analyst:** MNV

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	<4.96	248	278	112	248	278	112	0	90-110	20	X

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

561733 Page 1 of 2

Tetra Tech, Inc.

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

Client Name: EOG/ D &T Trucking

Site Manager: Ike Tavarez

Project Name: Beowulf 33 State Com 601H

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

Project #: 212C-MD-00902

Invoice to: Tetra Tech, Inc.

Receiving Laboratory: Xenco Midland Tx

Sampler Signature: Mike Carmona

Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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)
	North BottomHole	8/28/2017			X					X		1	N
	North West Sidewall	8/28/2017			X					X		1	N
	North East Sidewall	8/28/2017			X					X		1	N
	Bottom Hole #1	8/28/2017			X					X		1	N
	Bottom Hole #2	8/29/2017			X					X		1	N
	South BottomHole	8/29/2017			X					X		1	N
	South West Sidewall	8/29/2017			X					X		1	N
	South East Sidewall	8/29/2017			X					X		1	N
	West Sidewall	8/29/2017			X					X		1	N
	East Sidewall	8/29/2017			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							

Relinquished by: Mike Carmona Date: 8-30-17 Time: 1538

Received by: Date: 8/30/17 Time: 15:40

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

[ ] Special Report Limits or TRRP Report

ERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 4.8 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 4.6

Final 1.000

Analysis Request of Chain of Custody Record

561733

Page 2 of 2

Tetra Tech, Inc.

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

Client Name: EOG/ D & T Trucking	Site Manager: Ike Tavarez
Project Name: Beowulf 33 State Com 601H	
Project Location: (county, state) Lea County, New Mexico	Project #: 212C-MD-00902
Invoice to: Tetra Tech, Inc.	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature: Mike Carmona
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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)
	Re-Trench #5 (8')	8/28/2017			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				
														X							

Relinquished by: mike Carmona Date: 8-30-17 Time: 1538
Received by: Date: 8/31/17 Time: 15:40

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

[ ] Special Report Limits or TRRP Report

SED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 4.8 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 4.6

Final 1.000

Hold

Page 11 of 12

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 08/30/2017 03:40:00 PM

Work Order #: 561733

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)?	4.6
#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: 09/01/2017

Jessica Kramer

Checklist reviewed by: Kelsey Brooks — Date: 09/01/2017

Kelsey Brooks