November 17, 2017

APPROVED
By Olivia Yu at 12:27 pm, Nov 27, 2017

NMOCD approves of the proposed remediation plan for 1RP-4760 with the condition that delineation be completed at HA-5 to HA-8. See email.

New Mexico Oil Conservation Division
1625 N. French Drive
Hobbs, New Mexico 88240

Attn: Olivia Yu
P: (575) 393-6161 Ext. 113
E: Olivia.Yu@state.nm.us

Re: Proposed Work Plan – Battle Federal #4H
NMOCD No. 1RP-4760
Marathon Oil Company
Unit Letter "M", Section 27, Township 21 South, Range 33 East
Terracon Project No. AR177179

Introduction

Terracon Consultants, Inc. (Terracon) has prepared the following *Delineation and Work Plan* for the produced water release at Marathon Oil Company's (Marathon) Battle Federal #4H location. The release site is located in Unit Letter "B", Section 27, Township 21 South, Range 33 East in Lea County, New Mexico, at 32.44307153692°, -103.565825723177°. Review of the New Mexico Water Rights Reporting System (NMWRRS) online database indicates depth to groundwater information is not available for Section 27, Township21 South, Range 33 East. Review of a depth to groundwater gradient map utilized by the NMOCD indicates groundwater is estimated to be encountered at approximately 250 feet below grade surface (bgs). A site location map is provided as Figure 1.

On July 4, 2017, Marathon discovered a release occurred at the Battle Federal #4H location. The initial Release Notification and Corrective Action (Form C-141) indicates a 4-inch discharge valve was faulty or not closed, resulting in a 23 barrel (bbl) release of produced water of which approximately 11 bbls were released to containment and the remainder was released to the ground. The produced water release affected an area measuring approximately 1,500 square feet at the site location. During initial response activities, approximately 23 bbls of produced water was recovered.

Regulatory Framework

Crude oil facilities in New Mexico are generally regulated by the New Mexico Oil Conservation Division (NMOCD). Contamination of soil due to a surface release of produced water is addressed in the NMOCD guidance document title Guidelines for *Remediation of Leaks, Spills, and Releases*, dated August 13, 1993.

The NMOCD approved the Delineation Work Plan, dated August 17, 2017, with the conditions:

- Permissible chloride levels are <= 600 mg/kg for horizontal and vertical delineation. For delineation to be considered complete, laboratory analyses are required from each soil sample for two depths (depth obtained and depth maintained 1 ft. further) and from the edges of the release area.

Delineation Activities

Terracon Consultants, Inc. (Terracon) mobilized to the Battle Federal #4H location in Lea County, New Mexico on September 7, 2017 to compete delineation activities. Terracon collected 16 soil samples from 8 sample locations to obtain horizontal and vertical extent. See Figure 2 for a site sample location map detailing sampling locations. The collected soil samples were submitted to an accredited laboratory and analyzed for chlorides utilizing EPA Method 300, total petroleum hydrocarbons (TPH) utilizing EPA Method 8015, and benzene, toluene, ethylbenzene, and xylene (BTEX) utilizing EPA Method 8260B. Laboratory data suggests chlorides present above permissible levels do not extend past 1 ft. bgs. Please see Table 1 for a complete summary of analyzed laboratory data.

It should be noted that due to on-site soil lithology delineation samples below 1.5 ft. below grade surface (bgs) could not be obtained without the aid of heavy equipment.

Proposed Additional Delineation Activities

Terracon proposes the following remediation and confirmation sampling activities designed to advance the site toward an NMOCD – approved closure:

- Impacted soil exhibiting chloride concentrations above the NMOCD Permissible Chloride Levels will be excavated to the maximum extent practicable and stockpile on-site, atop an impermeable liner, pending disposal at an NMOCD – permitted disposal facility.

- Upon excavating impacted soil from within the release margins, confirmation soil samples will be collected from the floor and sidewalls of the excavated area at sample intervals that reflect the initial delineation sampling event and submitted to the laboratory for analysis of chloride concentrations.

- Upon receiving laboratory analytical results from excavation confirmation soil samples and NMOCD permission, the excavated area will be backfilled with caliche.

Upon completion of remediation activities and receipt of laboratory analytical results from confirmation soil samples, a final C-141 will be prepared along with a Remediation Summary and Soil Closure Request summarizing remediation activities and laboratory analytical results from the confirmation soil samples.

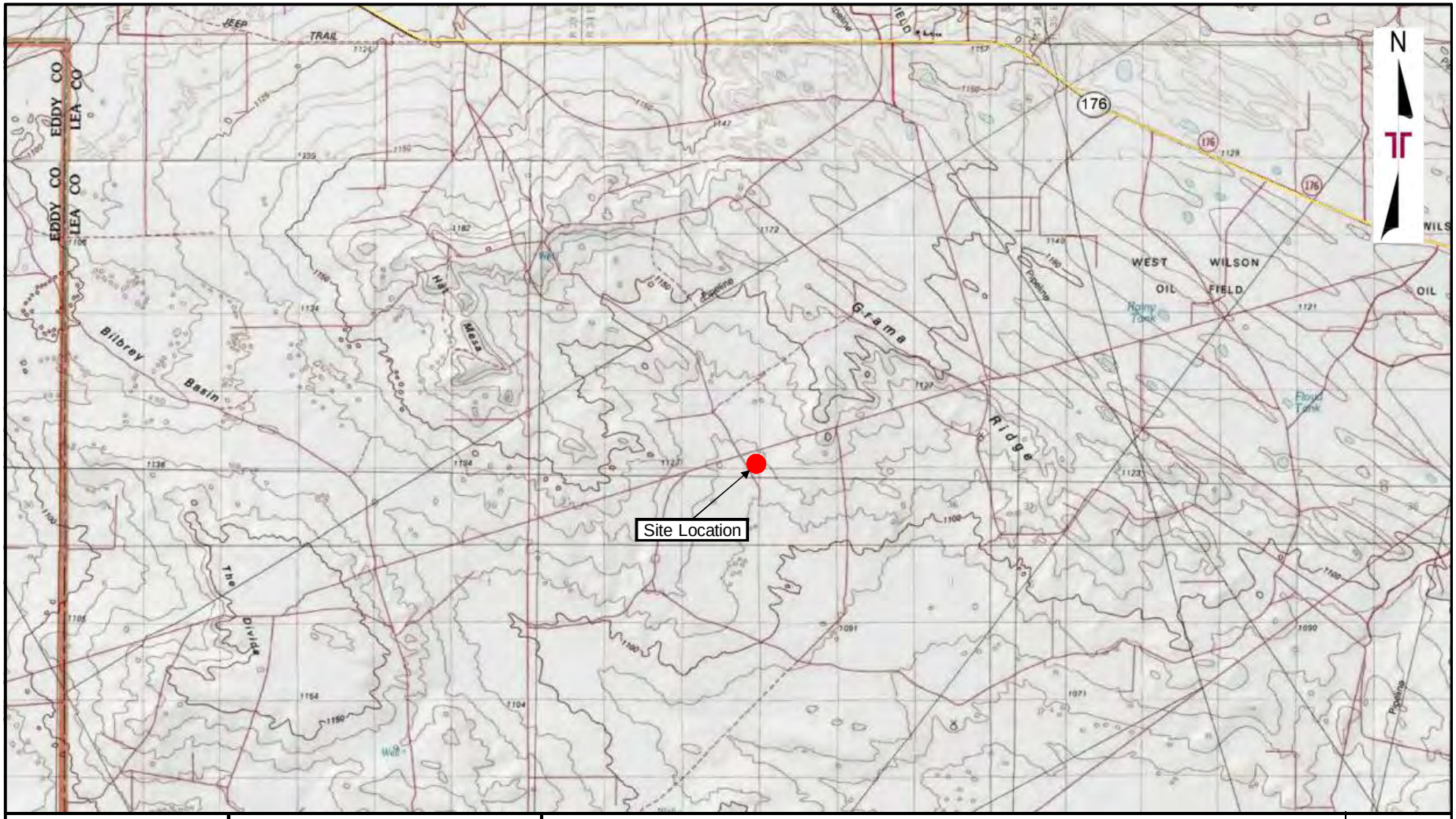
Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

Kristopher Williams
Senior Staff Scientist

Erin Loyd, P.G.
Senior Associate
Office Manager – Lubbock

Attachments: Figure 1 – Site Location Map
Figure 2 – Site Sample Location Map
Table 1 – Delineation Soil Sample Analytical Results (Chloride)



Project No.	AR177179
Scale:	1" = ~ 10,000'
Source:	Google Earth
Date:	2017

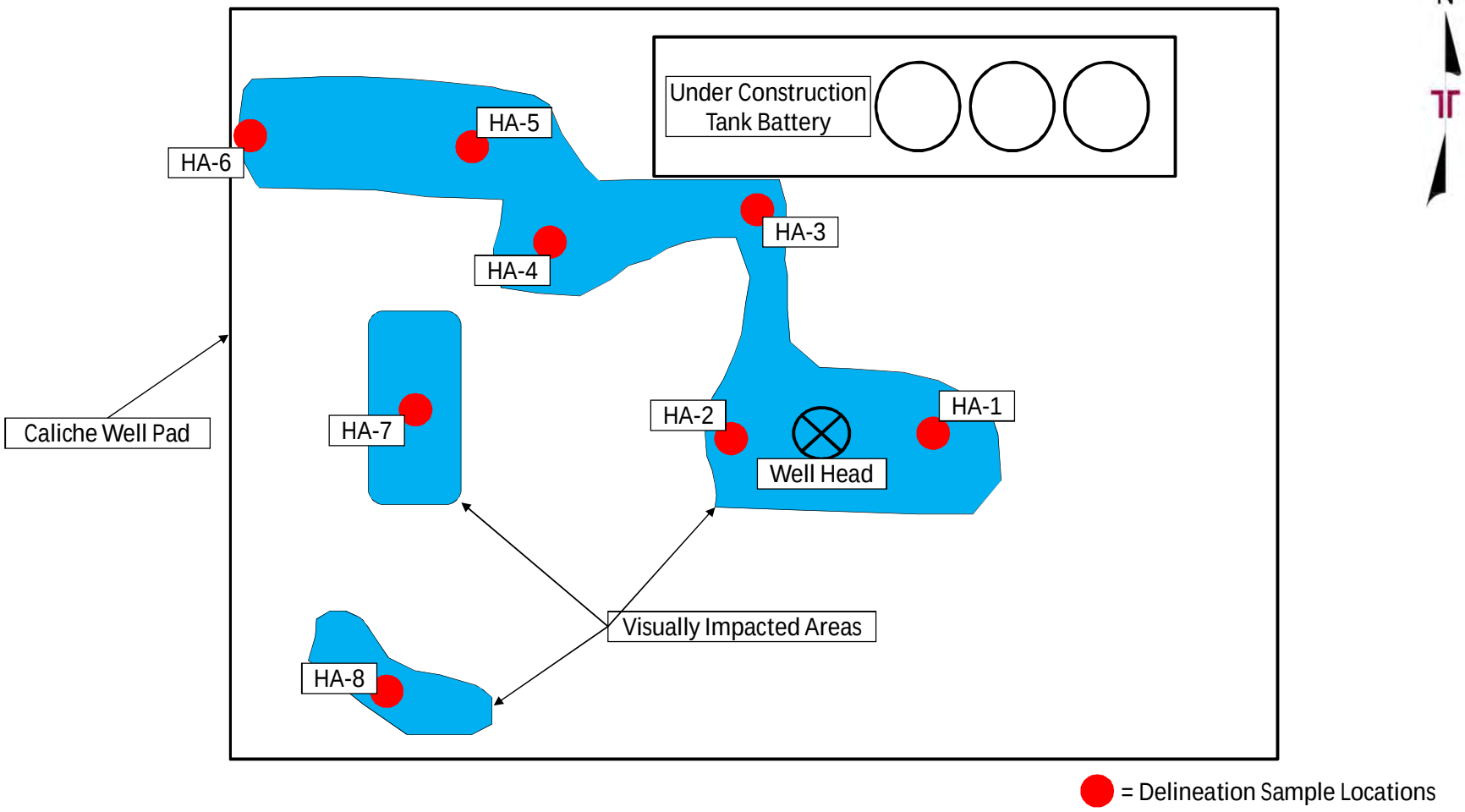
Terracon
Consulting Engineers & Scientists
5827 50th St. Suite 1 Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Site Location Map

Battle Federal #4
32.44307153692°, -103.565825723177°
Lea County, Texas

Figure

1



Project No.	AR177179
Scale:	1" = ~ 30'
Source:	Google Earth
Date:	2017

Terracon
Consulting Engineers & Scientists
5827 50th St. Suite 1 Lubbock, Texas 79424
PH. (806) 300-0104 FAX. (806) 797 0947

Proposed Delineation Sample Location Map

Battle Federal #4
32.44307153692°, -103.565825723177°
Lea County, Texas

Figure 2

TABLE 1
DELINEATION SOIL SAMPLE ANALYTICAL RESULTS - BTEX[1], TPH[2], Chloride[3]
Battle Federal #4H
32.44307, -103.56582
Terracon Project No. AR177179

Sample I.D.	Sample Depth (inches bgs)	Sample Date	BTEX (mg/kg)	TPH (mg/kg)			Chloride (mg/kg)
				GRO	DRO	ORO	
HA - 1	0 - 6	09/07/17	ND	<0.232	47.8	<7.48	**2,550**
HA - 1	6 - 12	09/07/17	NA	NA			427
HA - 2	0 - 6	09/07/17	ND	<0.264	<7.48	<7.48	**5,380**
HA - 2	6 - 12	09/07/17	NA	NA			**1,050**
HA - 2	12 - 18	09/07/17	NA	NA			145
HA - 3	0 - 6	09/07/17	ND	<0.268	<7.48	<7.48	**4,450**
HA - 3	6 - 12	09/07/17	NA	NA			**1,380**
HA - 3	12 - 18	09/07/17	NA	NA			66.4
HA-4	0 - 6	09/07/17	ND	<0.247	<7.48	<7.48	341
HA-4	6 - 12	09/07/17	NA	NA			375
HA-5	0 - 6	09/07/17	ND	<0.267	<7.48	<7.48	200
HA-6	0 - 6	09/07/17	ND	<0.265	18.3	<7.48	**31,400**
HA-7	0 - 6	09/07/17	ND	<0.253	<7.48	<7.48	**3,360**
HA-8	0 - 6	09/07/17	ND	<0.252	<7.48	<7.48	**3,090**
New Mexico Oil Conservation Division (NMOCD) Action Levels				100			600

1. BTEX = Benzene, toluene, ethylbenzene, xylene (BTEX) analyzed by EPA Method 8260B
2. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015 extended
3. Chloride = Chlorides analyzed by EPA Method 300
4. Only those constituents detected above the laboratory sample detection limit (SDL) are reported
ND = Constituents not detected above laboratory SDLs
< = Constituent not detected above the indicated laboratory SDL
Bold denotes concentrations that exceed TRRP Action Levels

Analytical Report 562436

for

Terracon Lubbock

Project Manager: Kris Williams

Battle Federal #4H

AR177179

05-OCT-17

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

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)

Table of Contents

05-OCT-17

Project Manager: **Kris Williams**
Terracon Lubbock
5827 50th st, Suite 1
Lubbock, TX 79424

Reference: XENCO Report No(s): **562436**
Battle Federal #4H
Project Address:

Kris Williams:

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) 562436. 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. 562436 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 562436

Terracon Lubbock, Lubbock, TX

Battle Federal #4H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
HA-1(0-6)	S	09-07-17 11:50	0 - 6 In	562436-001
HA-1(6-12)	S	09-07-17 11:55	6 - 12 In	562436-002
HA-2(0-6)	S	09-07-17 12:05	0 - 6 In	562436-004
HA-2(6-12)	S	09-07-17 12:10	6 - 12 In	562436-005
HA-2(12-18)	S	09-07-17 12:15	12 - 18 In	562436-006
HA-3(0-6)	S	09-07-17 12:20	0 - 6 In	562436-007
HA-3(6-12)	S	09-07-17 12:25	6 - 12 In	562436-008
HA-3(12-18)	S	09-07-17 12:30	12 - 18 In	562436-009
HA-4(0-6)	S	09-07-17 12:35	0 - 6 In	562436-010
HA-4(6-12)	S	09-07-17 12:40	6 - 12 In	562436-011
HA-5(0-6)	S	09-07-17 12:50	0 - 6 In	562436-013
HA-6(0-6)	S	09-07-17 12:55	0 - 6 In	562436-014
HA-7(0-6)	S	09-07-17 13:00	0 - 6 In	562436-015
HA-8(0-6)	S	09-07-17 13:05	0 - 6 In	562436-016
HA-1(12-18)	S	09-07-17 12:00	12 - 18 In	Not Analyzed
HA-4(12-18)	S	09-07-17 12:45	12 - 18 In	Not Analyzed

CASE NARRATIVE SUMMARY

Client Name: ***Terracon Lubbock***

Project Name: ***Battle Federal #4H***

Project ID: *AR177179*
Work Order Number: *562436*

Report Date: *05-OCT-17*
Date Received: *08-SEP-17*

Kelsey Brooks
Project Manager

Certificate of Analytical Results
562436
Terracon Lubbock, Lubbock, TX
Battle Federal #4H

Sample Id: **HA-1(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-001 Date Collected: 09.07.17 11.50 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028342 Date Prep: 09.18.17 12.30

Prep seq: 731359

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**2550**	250	5.72	mg/kg	09.21.17 15:59	DX	10

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015

Analyst: PGM % Moist: Tech: PGM

Seq Number: 3027529 Date Prep: 09.13.17 14.15

Prep seq: 730861

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	**47.8**	25.0	7.48	mg/kg	09.13.17 16:34		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	09.13.17 16:34	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	176	65 - 144	%		**
n-Triacontane	145	46 - 152	%		

Analytical Method: BTEX by SW 8260B Prep Method: 5030B

Analyst: JTR % Moist: Tech: JTR

Seq Number: 3027459 Date Prep: 09.12.17 17.42

Subcontractor: SUB: TX104704215-17-23 Prep seq: 730838

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000505	0.00101	0.000505	mg/kg	09.12.17 19:46	U	1
Toluene	108-88-3	<0.000505	0.00101	0.000505	mg/kg	09.12.17 19:46	U	1
Ethylbenzene	100-41-4	<0.000505	0.00101	0.000505	mg/kg	09.12.17 19:46	U	1
m,p-Xylenes	179601-23-1	<0.00101	0.00202	0.00101	mg/kg	09.12.17 19:46	U	1
o-Xylene	95-47-6	<0.000505	0.00101	0.000505	mg/kg	09.12.17 19:46	U	1
Total Xylenes	1330-20-7	<0.000505		0.000505	mg/kg	09.12.17 19:46	U	
Total BTEX		<0.000505		0.000505	mg/kg	09.12.17 19:46	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	110	74 - 126	%		
1,2-Dichloroethane-D4	117	80 - 120	%		
Toluene-D8	83	73 - 132	%		

Certificate of Analytical Results
562436
Terracon Lubbock, Lubbock, TX
Battle Federal #4H

Sample Id: **HA-1(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-001 Date Collected: 09.07.17 11.50 Date Received: 09.08.17 15.15

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3027400 Date Prep: 09.12.17 09.30

Prep seq: 730750

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.232	3.42	0.232	mg/kg	09.12.17 20:06	U	17

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	112	76 - 123	%		
a,a,a-Trifluorotoluene	116	69 - 120	%		

Sample Id: **HA-1(6-12)** Matrix: Soil Sample Depth: 6 - 12 In

Lab Sample Id: 562436-002 Date Collected: 09.07.17 11.55 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028342 Date Prep: 09.18.17 12.30

Prep seq: 731359

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**427**	25.0	0.572	mg/kg	09.21.17 16:36		1

Certificate of Analytical Results
562436
Terracon Lubbock, Lubbock, TX
Battle Federal #4H

Sample Id: **HA-2(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-004 Date Collected: 09.07.17 12.05 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028342 Date Prep: 09.18.17 12.30

Prep seq: 731359

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**5380**	1250	28.6	mg/kg	09.21.17 17:14	D	50

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015

Analyst: PGM % Moist: Tech: PGM

Seq Number: 3027529 Date Prep: 09.13.17 14.15

Prep seq: 730861

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	<7.48	25.0	7.48	mg/kg	09.13.17 18:19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	09.13.17 18:19	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	140	65 - 144	%		
n-Triacontane	125	46 - 152	%		

Analytical Method: BTEX by SW 8260B Prep Method: 5030B

Analyst: JTR % Moist: Tech: JTR

Seq Number: 3027459 Date Prep: 09.12.17 17.43

Subcontractor: SUB: TX104704215-17-23 Prep seq: 730838

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000498	0.000996	0.000498	mg/kg	09.12.17 20:07	U	1
Toluene	108-88-3	<0.000498	0.000996	0.000498	mg/kg	09.12.17 20:07	U	1
Ethylbenzene	100-41-4	<0.000498	0.000996	0.000498	mg/kg	09.12.17 20:07	U	1
m,p-Xylenes	179601-23-1	<0.000996	0.00199	0.000996	mg/kg	09.12.17 20:07	U	1
o-Xylene	95-47-6	<0.000498	0.000996	0.000498	mg/kg	09.12.17 20:07	U	1
Total Xylenes	1330-20-7	<0.000498		0.000498	mg/kg	09.12.17 20:07	U	
Total BTEX		<0.000498		0.000498	mg/kg	09.12.17 20:07	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	104	74 - 126	%		
1,2-Dichloroethane-D4	100	80 - 120	%		
Toluene-D8	104	73 - 132	%		

Certificate of Analytical Results
562436
Terracon Lubbock, Lubbock, TX
Battle Federal #4H

Sample Id: **HA-2(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-004 Date Collected: 09.07.17 12.05 Date Received: 09.08.17 15.15

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3027400 Date Prep: 09.12.17 09.30

Prep seq: 730750

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.264	3.89	0.264	mg/kg	09.12.17 21:54	U	19

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	107	76 - 123	%		
a,a,a-Trifluorotoluene	113	69 - 120	%		

Sample Id: **HA-2(6-12)** Matrix: Soil Sample Depth: 6 - 12 In

Lab Sample Id: 562436-005 Date Collected: 09.07.17 12.10 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028342 Date Prep: 09.18.17 12.30

Prep seq: 731359

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**1050**	125	2.86	mg/kg	09.21.17 17:38	D	5

Sample Id: **HA-2(12-18)** Matrix: Soil Sample Depth: 12 - 18 In

Lab Sample Id: 562436-006 Date Collected: 09.07.17 12.15 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3029610 Date Prep: 10.04.17 09.00

Prep seq: 7632142

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**145**	25.0	0.572	mg/kg	10.04.17 17:14		1

Certificate of Analytical Results
562436
Terracon Lubbock, Lubbock, TX
Battle Federal #4H

Sample Id: **HA-3(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-007 Date Collected: 09.07.17 12.20 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028342 Date Prep: 09.18.17 12.30

Prep seq: 731359

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**4450**	250	5.72	mg/kg	09.21.17 18:03	D	10

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015

Analyst: PGM % Moist: Tech: PGM

Seq Number: 3027529 Date Prep: 09.13.17 14.15

Prep seq: 730861

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	<7.48	25.0	7.48	mg/kg	09.13.17 18:55	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	09.13.17 18:55	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	137	65 - 144	%		
n-Triacontane	120	46 - 152	%		

Analytical Method: BTEX by SW 8260B Prep Method: 5030B

Analyst: JTR % Moist: Tech: JTR

Seq Number: 3027459 Date Prep: 09.12.17 17.44

Subcontractor: SUB: TX104704215-17-23 Prep seq: 730838

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000501	0.00100	0.000501	mg/kg	09.12.17 20:28	U	1
Toluene	108-88-3	<0.000501	0.00100	0.000501	mg/kg	09.12.17 20:28	U	1
Ethylbenzene	100-41-4	<0.000501	0.00100	0.000501	mg/kg	09.12.17 20:28	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00200	0.00100	mg/kg	09.12.17 20:28	U	1
o-Xylene	95-47-6	<0.000501	0.00100	0.000501	mg/kg	09.12.17 20:28	U	1
Total Xylenes	1330-20-7	<0.000501		0.000501	mg/kg	09.12.17 20:28	U	
Total BTEX		<0.000501		0.000501	mg/kg	09.12.17 20:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	104	74 - 126	%		
1,2-Dichloroethane-D4	95	80 - 120	%		
Toluene-D8	103	73 - 132	%		

Terracon Lubbock, Lubbock, TX

Battle Federal #4H

Sample Id: **HA-3(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-007 Date Collected: 09.07.17 12.20 Date Received: 09.08.17 15.15

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3027400 Date Prep: 09.12.17 09.30

Prep seq: 730750

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.268	3.95	0.268	mg/kg	09.12.17 22:21	U	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	108	76 - 123	%		
a,a,a-Trifluorotoluene	110	69 - 120	%		

Sample Id: **HA-3(6-12)** Matrix: Soil Sample Depth: 6 - 12 In

Lab Sample Id: 562436-008 Date Collected: 09.07.17 12.25 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028342 Date Prep: 09.18.17 12.30

Prep seq: 731359

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**1380**	125	2.86	mg/kg	09.21.17 18:40	D	5

Sample Id: **HA-3(12-18)** Matrix: Soil Sample Depth: 12 - 18 In

Lab Sample Id: 562436-009 Date Collected: 09.07.17 12.30 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3029610 Date Prep: 10.04.17 09.00

Prep seq: 7632142

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**66.4**	25.0	0.572	mg/kg	10.04.17 17:26		1

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Sample Id: **HA-4(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-010 Date Collected: 09.07.17 12.35 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028342 Date Prep: 09.18.17 12.30

Prep seq: 731359

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**341**	25.0	0.572	mg/kg	09.21.17 19:18		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015

Analyst: PGM % Moist: Tech: PGM

Seq Number: 3027529 Date Prep: 09.13.17 14.15

Prep seq: 730861

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	<7.48	25.0	7.48	mg/kg	09.13.17 19:29	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	09.13.17 19:29	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	134	65 - 144	%		
n-Triacontane	115	46 - 152	%		

Analytical Method: BTEX by SW 8260B Prep Method: 5030B

Analyst: JTR % Moist: Tech: JTR

Seq Number: 3027459 Date Prep: 09.12.17 17.45

Subcontractor: SUB: TX104704215-17-23 Prep seq: 730838

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000499	0.000998	0.000499	mg/kg	09.12.17 20:49	U	1
Toluene	108-88-3	<0.000499	0.000998	0.000499	mg/kg	09.12.17 20:49	U	1
Ethylbenzene	100-41-4	<0.000499	0.000998	0.000499	mg/kg	09.12.17 20:49	U	1
m,p-Xylenes	179601-23-1	<0.000998	0.00200	0.000998	mg/kg	09.12.17 20:49	U	1
o-Xylene	95-47-6	<0.000499	0.000998	0.000499	mg/kg	09.12.17 20:49	U	1
Total Xylenes	1330-20-7	<0.000499		0.000499	mg/kg	09.12.17 20:49	U	
Total BTEX		<0.000499		0.000499	mg/kg	09.12.17 20:49	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	105	74 - 126	%		
1,2-Dichloroethane-D4	112	80 - 120	%		
Toluene-D8	98	73 - 132	%		

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Sample Id: **HA-4(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-010 Date Collected: 09.07.17 12.35 Date Received: 09.08.17 15.15

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3027400 Date Prep: 09.12.17 09.30

Prep seq: 730750

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.247	3.64	0.247	mg/kg	09.12.17 22:48	U	18

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	108	76 - 123	%		
a,a,a-Trifluorotoluene	114	69 - 120	%		

Sample Id: **HA-4(6-12)** Matrix: Soil Sample Depth: 6 - 12 In

Lab Sample Id: 562436-011 Date Collected: 09.07.17 12.40 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028342 Date Prep: 09.18.17 12.30

Prep seq: 731359

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**375**	25.0	0.572	mg/kg	09.21.17 19:43		1

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Sample Id: **HA-5(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-013 Date Collected: 09.07.17 12.50 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028342 Date Prep: 09.18.17 12.30

Prep seq: 731359

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**200**	25.0	0.572	mg/kg	09.21.17 20:07		1

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015

Analyst: PGM % Moist: Tech: PGM

Seq Number: 3027529 Date Prep: 09.13.17 14.15

Prep seq: 730861

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	<7.48	25.0	7.48	mg/kg	09.13.17 20:05	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	09.13.17 20:05	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	132	65 - 144	%		
n-Triacontane	115	46 - 152	%		

Analytical Method: BTEX by SW 8260B Prep Method: 5030B

Analyst: JTR % Moist: Tech: JTR

Seq Number: 3027459 Date Prep: 09.12.17 11.00

Subcontractor: SUB: TX104704215-17-23 Prep seq: 730838

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000501	0.00100	0.000501	mg/kg	09.12.17 12:43	U	1
Toluene	108-88-3	<0.000501	0.00100	0.000501	mg/kg	09.12.17 12:43	U	1
Ethylbenzene	100-41-4	<0.000501	0.00100	0.000501	mg/kg	09.12.17 12:43	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00200	0.00100	mg/kg	09.12.17 12:43	U	1
o-Xylene	95-47-6	<0.000501	0.00100	0.000501	mg/kg	09.12.17 12:43	U	1
Total Xylenes	1330-20-7	<0.000501		0.000501	mg/kg	09.12.17 12:43	U	
Total BTEX		<0.000501		0.000501	mg/kg	09.12.17 12:43	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	110	74 - 126	%		
1,2-Dichloroethane-D4	116	80 - 120	%		
Toluene-D8	90	73 - 132	%		

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Sample Id:	**HA-5(0-6)**	Matrix:	Soil	Sample Depth:	0 - 6 In
Lab Sample Id:	562436-013	Date Collected:	09.07.17 12.50	Date Received:	09.08.17 15.15
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	5030B
Analyst:	MIT	% Moist:		Tech:	MIT
Seq Number:	3027400	Date Prep:	09.12.17 09.30		
		Prep seq:	730750		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.267	3.94	0.267	mg/kg	09.12.17 23:16	U	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	109	76 - 123	%		
a,a,a-Trifluorotoluene	116	69 - 120	%		

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Sample Id: **HA-6(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-014 Date Collected: 09.07.17 12.55 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028342 Date Prep: 09.18.17 12.30

Prep seq: 731359

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**31400**	12500	286	mg/kg	09.21.17 20:45	D	500

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015

Analyst: PGM % Moist: Tech: PGM

Seq Number: 3027529 Date Prep: 09.13.17 14.15

Prep seq: 730861

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	**18.3**	25.0	7.48	mg/kg	09.13.17 20:40	J	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	09.13.17 20:40	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	147	65 - 144	%		**
n-Triacontane	121	46 - 152	%		

Analytical Method: BTEX by SW 8260B Prep Method: 5030B

Analyst: EKL % Moist: Tech: EKL

Seq Number: 3027541 Date Prep: 09.13.17 15.15

Subcontractor: SUB: TX104704215-17-23 Prep seq: 730885

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000499	0.000998	0.000499	mg/kg	09.13.17 15:47	U	1
Toluene	108-88-3	<0.000499	0.000998	0.000499	mg/kg	09.13.17 15:47	U	1
Ethylbenzene	100-41-4	<0.000499	0.000998	0.000499	mg/kg	09.13.17 15:47	U	1
m,p-Xylenes	179601-23-1	<0.000998	0.00200	0.000998	mg/kg	09.13.17 15:47	U	1
o-Xylene	95-47-6	<0.000499	0.000998	0.000499	mg/kg	09.13.17 15:47	U	1
Total Xylenes	1330-20-7	<0.000499		0.000499	mg/kg	09.13.17 15:47	U	
Total BTEX		<0.000499		0.000499	mg/kg	09.13.17 15:47	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	103	74 - 126	%		
1,2-Dichloroethane-D4	99	80 - 120	%		
Toluene-D8	112	73 - 132	%		

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Sample Id:	**HA-6(0-6)**	Matrix:	Soil	Sample Depth:	0 - 6 In
Lab Sample Id:	562436-014	Date Collected:	09.07.17 12.55	Date Received:	09.08.17 15.15
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	5030B
Analyst:	MIT	% Moist:		Tech:	MIT
Seq Number:	3027400	Date Prep:	09.12.17 09.30		
		Prep seq:	730750		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.265	3.91	0.265	mg/kg	09.12.17 23:43	U	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	107	76 - 123	%		
a,a,a-Trifluorotoluene	113	69 - 120	%		

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Sample Id: **HA-7(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-015 Date Collected: 09.07.17 13.00 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028407 Date Prep: 09.22.17 08.00

Prep seq: 731407

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**3360**	250	5.72	mg/kg	09.22.17 09:49	D	10

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015

Analyst: PGM % Moist: Tech: PGM

Seq Number: 3027529 Date Prep: 09.13.17 14.15

Prep seq: 730861

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	<7.48	25.0	7.48	mg/kg	09.13.17 21:15	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	09.13.17 21:15	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	129	65 - 144	%		
n-Triacontane	112	46 - 152	%		

Analytical Method: BTEX by SW 8260B Prep Method: 5030B

Analyst: EKL % Moist: Tech: EKL

Seq Number: 3027541 Date Prep: 09.13.17 15.16

Subcontractor: SUB: TX104704215-17-23 Prep seq: 730885

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000500	0.00100	0.000500	mg/kg	09.13.17 16:02	U	1
Toluene	108-88-3	<0.000500	0.00100	0.000500	mg/kg	09.13.17 16:02	U	1
Ethylbenzene	100-41-4	<0.000500	0.00100	0.000500	mg/kg	09.13.17 16:02	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00200	0.00100	mg/kg	09.13.17 16:02	U	1
o-Xylene	95-47-6	<0.000500	0.00100	0.000500	mg/kg	09.13.17 16:02	U	1
Total Xylenes	1330-20-7	<0.000500		0.000500	mg/kg	09.13.17 16:02	U	
Total BTEX		<0.000500		0.000500	mg/kg	09.13.17 16:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	102	74 - 126	%		
1,2-Dichloroethane-D4	93	80 - 120	%		
Toluene-D8	109	73 - 132	%		

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Sample Id:	**HA-7(0-6)**	Matrix:	Soil	Sample Depth:	0 - 6 In
Lab Sample Id:	562436-015	Date Collected:	09.07.17 13.00	Date Received:	09.08.17 15.15
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	5030B
Analyst:	MIT	% Moist:		Tech:	MIT
Seq Number:	3027400	Date Prep:	09.12.17 09.30		
		Prep seq:	730750		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.253	3.74	0.253	mg/kg	09.13.17 00:10	U	19

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	110	76 - 123	%		
a,a,a-Trifluorotoluene	117	69 - 120	%		

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Sample Id: **HA-8(0-6)** Matrix: Soil Sample Depth: 0 - 6 In

Lab Sample Id: 562436-016 Date Collected: 09.07.17 13.05 Date Received: 09.08.17 15.15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: RNL % Moist: Tech: RNL

Seq Number: 3028407 Date Prep: 09.22.17 08.00

Prep seq: 731407

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**3090**	250	5.72	mg/kg	09.22.17 10:14	DX	10

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015

Analyst: PGM % Moist: Tech: PGM

Seq Number: 3027529 Date Prep: 09.13.17 14.15

Prep seq: 730861

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	<7.48	25.0	7.48	mg/kg	09.13.17 21:50	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	09.13.17 21:50	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	136	65 - 144	%		
n-Triacontane	119	46 - 152	%		

Analytical Method: BTEX by SW 8260B Prep Method: 5030B

Analyst: EKL % Moist: Tech: EKL

Seq Number: 3027541 Date Prep: 09.13.17 15.17

Subcontractor: SUB: TX104704215-17-23 Prep seq: 730885

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000495	0.000990	0.000495	mg/kg	09.13.17 16:17	U	1
Toluene	108-88-3	<0.000495	0.000990	0.000495	mg/kg	09.13.17 16:17	U	1
Ethylbenzene	100-41-4	<0.000495	0.000990	0.000495	mg/kg	09.13.17 16:17	U	1
m,p-Xylenes	179601-23-1	<0.000990	0.00198	0.000990	mg/kg	09.13.17 16:17	U	1
o-Xylene	95-47-6	<0.000495	0.000990	0.000495	mg/kg	09.13.17 16:17	U	1
Total Xylenes	1330-20-7	<0.000495		0.000495	mg/kg	09.13.17 16:17	U	
Total BTEX		<0.000495		0.000495	mg/kg	09.13.17 16:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	105	74 - 126	%		
1,2-Dichloroethane-D4	92	80 - 120	%		
Toluene-D8	101	73 - 132	%		

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Sample Id:	**HA-8(0-6)**	Matrix:	Soil	Sample Depth:	0 - 6 In
Lab Sample Id:	562436-016	Date Collected:	09.07.17 13.05	Date Received:	09.08.17 15.15
Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	5030B
Analyst:	MIT	% Moist:		Tech:	MIT
Seq Number:	3027400	Date Prep:	09.12.17 09.30		
		Prep seq:	730750		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.252	3.72	0.252	mg/kg	09.13.17 00:36	U	19

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	108	76 - 123	%		
a,a,a-Trifluorotoluene	113	69 - 120	%		

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Sample Id: **730750-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 730750-1-BLK Date Collected: Date Received:

Analytical Method: TPH GRO by EPA 8015 Mod. Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3027400 Date Prep: 09.12.17 09.30

Prep seq: 730750

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
TPH-GRO	8006-61-9	<0.271	4.00	0.271	mg/kg	09.12.17 19:39	U	20

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
4-Bromofluorobenzene	105	76 - 123	%		
a,a,a-Trifluorotoluene	115	69 - 120	%		

Sample Id: **730838-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 730838-1-BLK Date Collected: Date Received:

Analytical Method: BTEX by SW 8260B Prep Method: 5030B

Analyst: JTR % Moist: Tech: JTR

Seq Number: 3027459 Date Prep: 09.12.17 10.00

Subcontractor: SUB: TX104704215-17-23 Prep seq: 730838

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000500	0.00100	0.000500	mg/kg	09.12.17 11:41	U	1
Toluene	108-88-3	<0.000500	0.00100	0.000500	mg/kg	09.12.17 11:41	U	1
Ethylbenzene	100-41-4	<0.000500	0.00100	0.000500	mg/kg	09.12.17 11:41	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00200	0.00100	mg/kg	09.12.17 11:41	U	1
o-Xylene	95-47-6	<0.000500	0.00100	0.000500	mg/kg	09.12.17 11:41	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	98	74 - 126	%		
1,2-Dichloroethane-D4	95	80 - 120	%		
Toluene-D8	103	73 - 132	%		

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Sample Id: **730861-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 730861-1-BLK Date Collected: Date Received:

Analytical Method: DRO-ORO By SW8015B Prep Method: 8015

Analyst: PGM % Moist: Tech: PGM

Seq Number: 3027529 Date Prep: 09.13.17 14.15

Prep seq: 730861

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Diesel Range Organics (DRO)	C10C28DRO	<7.48	25.0	7.48	mg/kg	09.13.17 14:16	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<7.48	25.0	7.48	mg/kg	09.13.17 14:16	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Tricosane	109	65 - 144	%		
n-Triacontane	96	46 - 152	%		

Sample Id: **730885-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 730885-1-BLK Date Collected: Date Received:

Analytical Method: BTEX by SW 8260B Prep Method: 5030B

Analyst: EKL % Moist: Tech: EKL

Seq Number: 3027541 Date Prep: 09.13.17 10.25

Subcontractor: SUB: TX104704215-17-23 Prep seq: 730885

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000500	0.00100	0.000500	mg/kg	09.13.17 11:23	U	1
Toluene	108-88-3	<0.000500	0.00100	0.000500	mg/kg	09.13.17 11:23	U	1
Ethylbenzene	100-41-4	<0.000500	0.00100	0.000500	mg/kg	09.13.17 11:23	U	1
m,p-Xylenes	179601-23-1	<0.00100	0.00200	0.00100	mg/kg	09.13.17 11:23	U	1
o-Xylene	95-47-6	<0.000500	0.00100	0.000500	mg/kg	09.13.17 11:23	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	104	74 - 126	%		
1,2-Dichloroethane-D4	107	80 - 120	%		
Toluene-D8	92	73 - 132	%		

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Battle Federal #4H

Sample Id: **731359-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 731359-1-BLK Date Collected: Date Received:
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: RNL % Moist: Tech: RNL
Seq Number: 3028342 Date Prep: 09.18.17 12.30
Prep seq: 731359

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**0.780**	25.0	0.572	mg/kg	09.21.17 15:09	J	1

Sample Id: **731407-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 731407-1-BLK Date Collected: Date Received:
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: RNL % Moist: Tech: RNL
Seq Number: 3028407 Date Prep: 09.22.17 08.00
Prep seq: 731407

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**0.883**	25.0	0.572	mg/kg	09.22.17 09:00	J	1

Sample Id: **7632142-1-BLK** Matrix: Solid Sample Depth:
Lab Sample Id: 7632142-1-BLK Date Collected: Date Received:
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Analyst: RNL % Moist: Tech: RNL
Seq Number: 3029610 Date Prep: 10.04.17 09.00
Prep seq: 7632142

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.572	25.0	0.572	mg/kg	10.04.17 12:53	U	1

CHRONOLOGY OF HOLDING TIMES

Analytical Method : Chloride by EPA 300
Work Order #: **562436**
Date Received: 09/08/17

Client : Terracon Lubbock
Project ID: AR177179

Field Sample ID	Lab Sample ID	Date Collected	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
HA-1(0-6)	562436-001	09/07/17				09/21/17	28	14	P
HA-1(6-12)	562436-002	09/07/17				09/21/17	28	14	P
HA-2(0-6)	562436-004	09/07/17				09/21/17	28	14	P
HA-2(6-12)	562436-005	09/07/17				09/21/17	28	14	P
HA-2(12-18)	562436-006	09/07/17				10/04/17	28	27	P
HA-3(0-6)	562436-007	09/07/17				09/21/17	28	14	P
HA-3(6-12)	562436-008	09/07/17				09/21/17	28	14	P
HA-3(12-18)	562436-009	09/07/17				10/04/17	28	27	P
HA-4(0-6)	562436-010	09/07/17				09/21/17	28	14	P
HA-4(6-12)	562436-011	09/07/17				09/21/17	28	14	P
HA-5(0-6)	562436-013	09/07/17				09/21/17	28	14	P
HA-6(0-6)	562436-014	09/07/17				09/21/17	28	14	P
HA-7(0-6)	562436-015	09/07/17				09/22/17	28	15	P
HA-8(0-6)	562436-016	09/07/17				09/22/17	28	15	P

CHRONOLOGY OF HOLDING TIMES

Analytical Method : DRO-ORO By SW8015B
Work Order #: **562436**
Date Received: 09/08/17

Client : Terracon Lubbock
Project ID: AR177179

Field Sample ID	Lab Sample ID	Date Collected	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
HA-1(0-6)	562436-001	09/07/17	09/13/17	14	6	09/13/17	14	0	P
HA-2(0-6)	562436-004	09/07/17	09/13/17	14	6	09/13/17	14	0	P
HA-3(0-6)	562436-007	09/07/17	09/13/17	14	6	09/13/17	14	0	P
HA-4(0-6)	562436-010	09/07/17	09/13/17	14	6	09/13/17	14	0	P
HA-5(0-6)	562436-013	09/07/17	09/13/17	14	6	09/13/17	14	0	P
HA-6(0-6)	562436-014	09/07/17	09/13/17	14	6	09/13/17	14	0	P
HA-7(0-6)	562436-015	09/07/17	09/13/17	14	6	09/13/17	14	0	P
HA-8(0-6)	562436-016	09/07/17	09/13/17	14	6	09/13/17	14	0	P

CHRONOLOGY OF HOLDING TIMES

Analytical Method : TPH GRO by EPA 8015 Mod.
Work Order #: **562436**
Date Received: 09/08/17

Client : Terracon Lubbock
Project ID: AR177179

Field Sample ID	Lab Sample ID	Date Collected	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
HA-1(0-6)	562436-001	09/07/17				09/12/17	14	5	P
HA-2(0-6)	562436-004	09/07/17				09/12/17	14	5	P
HA-3(0-6)	562436-007	09/07/17				09/12/17	14	5	P
HA-4(0-6)	562436-010	09/07/17				09/12/17	14	5	P
HA-5(0-6)	562436-013	09/07/17				09/12/17	14	5	P
HA-6(0-6)	562436-014	09/07/17				09/12/17	14	5	P
HA-7(0-6)	562436-015	09/07/17				09/13/17	14	6	P
HA-8(0-6)	562436-016	09/07/17				09/13/17	14	6	P

CHRONOLOGY OF HOLDING TIMES

Analytical Method : BTEX by SW 8260B
Work Order #: **562436**
Date Received: 09/08/17

Client : Terracon Lubbock
Project ID: AR177179

Field Sample ID	Lab Sample ID	Date Collected	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
HA-1(0-6)	562436-001	09/07/17				09/12/17	14	5	P
HA-2(0-6)	562436-004	09/07/17				09/12/17	14	5	P
HA-3(0-6)	562436-007	09/07/17				09/12/17	14	5	P
HA-4(0-6)	562436-010	09/07/17				09/12/17	14	5	P
HA-5(0-6)	562436-013	09/07/17				09/12/17	14	5	P
HA-6(0-6)	562436-014	09/07/17				09/13/17	14	6	P
HA-7(0-6)	562436-015	09/07/17				09/13/17	14	6	P
HA-8(0-6)	562436-016	09/07/17				09/13/17	14	6	P

F = These samples were analyzed outside the recommended holding time.
P = Samples analyzed within the recommended holding time.

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

Analytical Log

Analytical Method:	TPH GRO by EPA 8015 Mod.	Batch #:	3027400
Project Name:	Battle Federal #4H	Project ID:	AR177179
Client Name:	Terracon Lubbock	WO Number:	562436

Client Sample Id	Lab Sample Id	QC Types
HA-1(0-6)	562436-001	SMP
HA-2(0-6)	562436-004	SMP
HA-3(0-6)	562436-007	SMP
HA-4(0-6)	562436-010	SMP
HA-5(0-6)	562436-013	SMP
HA-6(0-6)	562436-014	SMP
HA-7(0-6)	562436-015	SMP
HA-8(0-6)	562436-016	SMP
	562436-001 S	MS
	562436-001 SD	MSD
	730750-1-BKS	BKS
	730750-1-BLK	BLK
	730750-1-BSD	BSD

Analytical Log

Analytical Method:	BTEX by SW 8260B	Batch #:	3027459
Project Name:	Battle Federal #4H	Project ID:	AR177179
Client Name:	Terracon Lubbock	WO Number:	562436

Client Sample Id	Lab Sample Id	QC Types
HA-1(0-6)	562436-001	SMP
HA-2(0-6)	562436-004	SMP
HA-3(0-6)	562436-007	SMP
HA-4(0-6)	562436-010	SMP
HA-5(0-6)	562436-013	SMP
	562436-013 S	MS
	562436-013 SD	MSD
	730838-1-BKS	BKS
	730838-1-BLK	BLK
	730838-1-BSD	BSD

Analytical Log

Analytical Method:	DRO-ORO By SW8015B	Batch #:	3027529
Project Name:	Battle Federal #4H	Project ID:	AR177179
Client Name:	Terracon Lubbock	WO Number:	562436

Client Sample Id	Lab Sample Id	QC Types
HA-1(0-6)	562436-001	SMP
HA-2(0-6)	562436-004	SMP
HA-3(0-6)	562436-007	SMP
HA-4(0-6)	562436-010	SMP
HA-5(0-6)	562436-013	SMP
HA-6(0-6)	562436-014	SMP
HA-7(0-6)	562436-015	SMP
HA-8(0-6)	562436-016	SMP
	562436-001 S	MS
	562436-001 SD	MSD
	730861-1-BKS	BKS
	730861-1-BLK	BLK
	730861-1-BSD	BSD

Analytical Log

Analytical Method:	BTEX by SW 8260B	Batch #:	3027541
Project Name:	Battle Federal #4H	Project ID:	AR177179
Client Name:	Terracon Lubbock	WO Number:	562436

Client Sample Id	Lab Sample Id	QC Types
HA-6(0-6)	562436-014	SMP
HA-7(0-6)	562436-015	SMP
HA-8(0-6)	562436-016	SMP
	562612-004 S	MS
	562612-004 SD	MSD
	730885-1-BKS	BKS
	730885-1-BLK	BLK
	730885-1-BSD	BSD

Analytical Log

Analytical Method:	Chloride by EPA 300	Batch #:	3028342
Project Name:	Battle Federal #4H	Project ID:	AR177179
Client Name:	Terracon Lubbock	WO Number:	562436

Client Sample Id	Lab Sample Id	QC Types
HA-1(0-6)	562436-001	SMP
HA-1(0-6) DL	562436-001	DL
HA-1(6-12)	562436-002	SMP
HA-1(6-12) DL	562436-002	DL
HA-2(0-6)	562436-004	SMP
HA-2(0-6) DL	562436-004	DL
HA-2(6-12)	562436-005	SMP
HA-2(6-12) DL	562436-005	DL
HA-3(0-6)	562436-007	SMP
HA-3(0-6) DL	562436-007	DL
HA-3(6-12)	562436-008	SMP
HA-3(6-12) DL	562436-008	DL
HA-4(0-6)	562436-010	SMP
HA-4(0-6) DL	562436-010	DL
HA-4(6-12)	562436-011	SMP
HA-4(6-12) DL	562436-011	DL
HA-5(0-6)	562436-013	SMP
HA-5(0-6) DL	562436-013	DL
HA-6(0-6)	562436-014	SMP
HA-6(0-6) DL	562436-014	DL
	562436-001 S	MS
	562436-001 SD	MSD
	562436-008 S	MS
	562436-008 SD	MSD
	731359-1-BKS	BKS
	731359-1-BLK	BLK
	731359-1-BSD	BSD

Analytical Log

Analytical Method:	Chloride by EPA 300	Batch #:	3028407
Project Name:	Battle Federal #4H	Project ID:	AR177179
Client Name:	Terracon Lubbock	WO Number:	562436

Client Sample Id	Lab Sample Id	QC Types
HA-7(0-6)	562436-015	SMP
HA-7(0-6) DL	562436-015	DL
HA-8(0-6)	562436-016	SMP
HA-8(0-6) DL	562436-016	DL
	562436-016 S	MS
	562436-016 SD	MSD
	731407-1-BKS	BKS
	731407-1-BLK	BLK
	731407-1-BSD	BSD

Analytical Log

Analytical Method:	Chloride by EPA 300	Batch #:	3029610
Project Name:	Battle Federal #4H	Project ID:	AR177179
Client Name:	Terracon Lubbock	WO Number:	562436

Client Sample Id	Lab Sample Id	QC Types
HA-2(12-18)	562436-006	SMP
HA-3(12-18)	562436-009	SMP
	564116-001 S	MS
	564116-001 SD	MSD
	564125-002 S	MS
	564125-002 SD	MSD
	7632142-1-BKS	BKS
	7632142-1-BLK	BLK
	7632142-1-BSD	BSD

Form 2 - Surrogate Recoveries

Project Name: Battle Federal #4H

Work Orders : 562436,

Project ID: AR177179

Lab Batch #: 3027459 **Sample:** 730838-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/12/17 09:50

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0496	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0487	0.0500	97	80-120	
Toluene-D8	0.0498	0.0500	100	73-132	

Lab Batch #: 3027459 **Sample:** 730838-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/12/17 10:11

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0521	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0484	0.0500	97	80-120	
Toluene-D8	0.0518	0.0500	104	73-132	

Lab Batch #: 3027459 **Sample:** 730838-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/12/17 11:41

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0491	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0473	0.0500	95	80-120	
Toluene-D8	0.0514	0.0500	103	73-132	

Lab Batch #: 3027459 **Sample:** 562436-013 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/12/17 16:38

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0484	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0508	0.0500	102	80-120	
Toluene-D8	0.0473	0.0500	95	73-132	

* 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: Battle Federal #4H

Work Orders : 562436,

Project ID: AR177179

Lab Batch #: 3027459 **Sample:** 562436-013 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/12/17 16:59

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0512	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0535	0.0500	107	80-120	
Toluene-D8	0.0567	0.0500	113	73-132	

Lab Batch #: 3027541 **Sample:** 730885-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/13/17 10:01

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0499	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0544	0.0500	109	80-120	
Toluene-D8	0.0449	0.0500	90	73-132	

Lab Batch #: 3027541 **Sample:** 730885-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/13/17 10:16

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0471	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0494	0.0500	99	80-120	
Toluene-D8	0.0525	0.0500	105	73-132	

Lab Batch #: 3027541 **Sample:** 730885-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/13/17 11:23

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0521	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0535	0.0500	107	80-120	
Toluene-D8	0.0459	0.0500	92	73-132	

* 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: Battle Federal #4H

Work Orders : 562436,

Project ID: AR177179

Lab Batch #: 3027541 **Sample:** 562612-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/13/17 13:54

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0516	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0493	0.0500	99	80-120	
Toluene-D8	0.0475	0.0500	95	73-132	

Lab Batch #: 3027541 **Sample:** 562612-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/13/17 14:10

BTEX by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0503	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0523	0.0500	105	80-120	
Toluene-D8	0.0562	0.0500	112	73-132	

Lab Batch #: 3027529 **Sample:** 730861-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/13/17 14:16

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	10.9	10.0	109	65-144	
n-Triacontane	9.55	10.0	96	46-152	

Lab Batch #: 3027529 **Sample:** 730861-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/13/17 14:50

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	13.7	10.0	137	65-144	
n-Triacontane	11.1	10.0	111	46-152	

* 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: Battle Federal #4H

Work Orders : 562436,

Project ID: AR177179

Lab Batch #: 3027529 **Sample:** 730861-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/13/17 15:25

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	13.9	10.0	139	65-144	
n-Triacontane	12.1	10.0	121	46-152	

Lab Batch #: 3027529 **Sample:** 562436-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/13/17 17:08

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	18.9	10.0	189	65-144	**
n-Triacontane	13.7	10.0	137	46-152	

Lab Batch #: 3027529 **Sample:** 562436-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/13/17 17:44

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	19.3	10.0	193	65-144	**
n-Triacontane	14.3	10.0	143	46-152	

Lab Batch #: 3027400 **Sample:** 730750-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/12/17 17:51

TPH GRO by EPA 8015 Mod. Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.112	0.100	112	76-123	
a,a,a-Trifluorotoluene	2.25	2.00	113	69-120	

Lab Batch #: 3027400 **Sample:** 730750-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/12/17 18:17

TPH GRO by EPA 8015 Mod. Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.109	0.100	109	76-123	
a,a,a-Trifluorotoluene	2.21	2.00	111	69-120	

* 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: Battle Federal #4H

Work Orders : 562436,

Project ID: AR177179

Lab Batch #: 3027400 **Sample:** 730750-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/12/17 19:39

TPH GRO by EPA 8015 Mod. Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.105	0.100	105	76-123	
a,a,a-Trifluorotoluene	2.29	2.00	115	69-120	

Lab Batch #: 3027400 **Sample:** 562436-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/12/17 20:33

TPH GRO by EPA 8015 Mod. Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.118	0.100	118	76-123	
a,a,a-Trifluorotoluene	2.02	1.99	102	69-120	

Lab Batch #: 3027400 **Sample:** 562436-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/12/17 21:01

TPH GRO by EPA 8015 Mod. Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.119	0.100	119	76-123	
a,a,a-Trifluorotoluene	1.96	1.98	99	69-120	

* 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: Battle Federal #4H

Work Order #: 562436 **Project ID:** AR177179

Analyst: JTR **Date Prepared:** 09/12/2017 **Date Analyzed:** 09/12/2017

Lab Batch ID: 3027459 **Sample:** 730838-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B 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	<0.000500	0.100	0.106	106	0.100	0.101	101	5	62-132	25	
Toluene	<0.000500	0.100	0.103	103	0.100	0.105	105	2	66-124	25	
Ethylbenzene	<0.000500	0.100	0.101	101	0.100	0.0989	99	2	71-134	25	
m,p-Xylenes	<0.00100	0.200	0.210	105	0.200	0.200	100	5	69-128	25	
o-Xylene	<0.000500	0.100	0.103	103	0.100	0.106	106	3	72-131	25	

Analyst: EKL **Date Prepared:** 09/13/2017 **Date Analyzed:** 09/13/2017

Lab Batch ID: 3027541 **Sample:** 730885-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B 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	<0.000500	0.100	0.0961	96	0.100	0.0921	92	4	62-132	25	
Toluene	<0.000500	0.100	0.0893	89	0.100	0.102	102	13	66-124	25	
Ethylbenzene	<0.000500	0.100	0.0947	95	0.100	0.0971	97	3	71-134	25	
m,p-Xylenes	<0.00100	0.200	0.188	94	0.200	0.192	96	2	69-128	25	
o-Xylene	<0.000500	0.100	0.0859	86	0.100	0.0953	95	10	72-131	25	

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: Battle Federal #4H

Work Order #: 562436 **Project ID:** AR177179

Analyst: RNL **Date Prepared:** 09/18/2017 **Date Analyzed:** 09/21/2017

Lab Batch ID: 3028342 **Sample:** 731359-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	0.780	250	263	105	250	253	101	4	90-110	20	

Analyst: RNL **Date Prepared:** 09/22/2017 **Date Analyzed:** 09/22/2017

Lab Batch ID: 3028407 **Sample:** 731407-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	0.883	250	227	91	250	246	98	8	90-110	20	

Analyst: RNL **Date Prepared:** 10/04/2017 **Date Analyzed:** 10/04/2017

Lab Batch ID: 3029610 **Sample:** 7632142-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	<0.572	250	242	97	250	240	96	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

BS / BSD Recoveries

Project Name: Battle Federal #4H

Work Order #: 562436 **Project ID:** AR177179

Analyst: PGM **Date Prepared:** 09/13/2017 **Date Analyzed:** 09/13/2017

Lab Batch ID: 3027529 **Sample:** 730861-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B 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
Diesel Range Organics (DRO)	<7.48	100	111	111	100	101	101	9	63-139	20	

Analyst: MIT **Date Prepared:** 09/12/2017 **Date Analyzed:** 09/12/2017

Lab Batch ID: 3027400 **Sample:** 730750-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 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
TPH-GRO	<0.271	20.0	22.9	115	20.0	23.5	118	3	35-129	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: Battle Federal #4H

Work Order # : 562436 **Project ID:** AR177179

Lab Batch ID: 3027459 **QC- Sample ID:** 562436-013 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/12/2017 **Date Prepared:** 09/12/2017 **Analyst:** JTR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B 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	<0.000497	0.0994	0.0829	83	0.0992	0.0901	91	8	62-132	25	
Toluene	<0.000497	0.0994	0.0817	82	0.0992	0.0989	100	19	66-124	25	
Ethylbenzene	<0.000497	0.0994	0.0788	79	0.0992	0.0908	92	14	71-134	25	
m,p-Xylenes	<0.000994	0.199	0.164	82	0.198	0.189	95	14	69-128	25	
o-Xylene	<0.000497	0.0994	0.0851	86	0.0992	0.108	109	24	72-131	25	

Lab Batch ID: 3027541 **QC- Sample ID:** 562612-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/13/2017 **Date Prepared:** 09/13/2017 **Analyst:** EKL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B 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	<0.000580	0.116	0.104	90	0.116	0.0933	80	11	62-132	25	
Toluene	<0.000580	0.116	0.0949	82	0.116	0.107	92	12	66-124	25	
Ethylbenzene	<0.000580	0.116	0.101	87	0.116	0.100	86	1	71-134	25	
m,p-Xylenes	<0.00116	0.232	0.202	87	0.231	0.198	86	2	69-128	25	
o-Xylene	<0.000580	0.116	0.102	88	0.116	0.102	88	0	72-131	25	

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: Battle Federal #4H

Work Order # : 562436 **Project ID:** AR177179

Lab Batch ID: 3028342 **QC- Sample ID:** 562436-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/21/2017 **Date Prepared:** 09/18/2017 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	1880	250	2440	224	250	2600	288	6	80-120	20	X

Lab Batch ID: 3028342 **QC- Sample ID:** 562436-008 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/21/2017 **Date Prepared:** 09/18/2017 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	1170	250	1450	112	250	1440	108	1	80-120	20	

Lab Batch ID: 3028407 **QC- Sample ID:** 562436-016 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/22/2017 **Date Prepared:** 09/22/2017 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	2270	250	3250	392	250	3400	452	5	80-120	20	X

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Battle Federal #4H

Work Order # : 562436 **Project ID:** AR177179

Lab Batch ID: 3029610 **QC- Sample ID:** 564116-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/04/2017 **Date Prepared:** 10/04/2017 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	3.08	250	248	98	250	245	97	1	80-120	20	

Lab Batch ID: 3029610 **QC- Sample ID:** 564125-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/04/2017 **Date Prepared:** 10/04/2017 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	6.32	250	240	93	250	249	97	4	80-120	20	

Lab Batch ID: 3027529 **QC- Sample ID:** 562436-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/13/2017 **Date Prepared:** 09/13/2017 **Analyst:** PGM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B 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
Diesel Range Organics (DRO)	47.8	100	160	112	100	159	111	1	63-139	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: Battle Federal #4H

Work Order # : 562436 **Project ID:** AR177179

Lab Batch ID: 3027400 **QC- Sample ID:** 562436-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/12/2017 **Date Prepared:** 09/12/2017 **Analyst:** MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 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
TPH-GRO	<0.269	19.9	18.3	92	19.8	19.0	96	4	35-129	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.

Attachment A Laboratory Data Package Cover Page

Project Name: **Battle Federal #4H** Laboratory Number: **562436**

This Data package consists of : Laboratory Batch No(s) **730885, 730861, 730838, 7632142, 731407,**

This signature page, the laboratory review checklist, and the following reportable data:

☐ R1 Field chain-of-custody documentation;

☐ R2 Sample identification cross-reference;

☐ R3 Test reports (analytical data sheets) for each environmental sample that includes:
- a) Items consistent with NELAC 5
- b) dilution factors,
- c) preparation methods,
- d) cleanup methods, and
- e) if required for the project, tentatively identified compounds (TICs).

☐ R4 Surrogate Recovery data including:
- a) Calculated recovery (%R), and
- b) The laboratory's surrogate QC limits.

☐ R5 Test reports/summary forms for blank samples;

☐ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
- a) LCS spiking amounts,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

☐ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %Rs and relative percent differences (RPDs) and
- e) The laboratory's MS/MSD QC limits

☐ R8 Laboratory anaytical duplicate (if applicable) recovery and precision:
- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

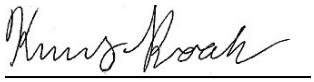
☐ R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;

☐ R10 Other problems or anomalies.

☐ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies, observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC 25.6 and was last inspection by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The offical signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Kelsey Brooks		**Project Manager**	**05-OCT-17**
Name (Printed)	Signature	Official Title (printed)	Date

A1

1. Items identified by the letter "R" must be included in the laboratory data package submitted to the TCEQ-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report Identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Attachment A (cont'd): Laboratory Review Checklist: Exception Reports

Laboratory Name:	XENCO LABORATORIES	LRC Date:	05-OCT-17
Project Name:	Battle Federal #4H	Laboratory Job Number:	562436
Reviewer Name:	KEB	Batch Number(s) :	730885, 730861, 730838, 7632142, 731407, 731359, 730750

ER# [1]	DESCRIPTION

1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No is checked on the LRC).

Terracon Lubbock, Lubbock, TX

Battle Federal #4H

Analytical Method: BTEX by SW 8260B Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
Benzene	0.000500	0.000550	mg/kg
Toluene	0.000500	0.000590	mg/kg
Ethylbenzene	0.000500	0.000480	mg/kg
m,p-Xylenes	0.00100	0.000920	mg/kg
o-Xylene	0.000500	0.000530	mg/kg

Analytical Method: TPH GRO by EPA 8015 Mod. Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
TPH-GRO	700	996	mg/kg

562 430

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen, Lubbock, Texas 79424
Phone:
Contact:
PO/SO #:

Office Location: Lubbock
Project Manager: Kris Williams
Sampler's Name: Zach Conder
Sampler's Signature: ZCon

ANALYSIS REQUESTED: 562430

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C): IR3 0.9/0.8 -0.1

Project Number: AR177179
Project Name: Battle Federal #4H

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 4 oz Glass	8 oz Glass	BTEX (EPA Method 8260B)	TPH (EPA Method 8015M Extended)	Chloride (EPA Method 300)	Hold	Lab Sample ID
S	9/7/2017	11:50		X	HA-1 (0-6)	0	6		1	X	X	X		001
S	9/7/2017	11:55		X	HA-1 (6-12)	6	12		1			X		002
S	9/7/2017	12:00		X	HA-1 (12-18)	12	18		1				X	003
S	9/7/2017	12:05		X	HA-2 (0-6)	0	6		1	X	X	X		004
S	9/7/2017	12:10		X	HA-2 (6-12)	6	12		1			X		005
S	9/7/2017	12:15		X	HA-2 (12-18)	12	18		1				X	006
S	9/7/2017	12:20		X	HA-3 (0-6)	0	6		1	X	X	X		007
S	9/7/2017	12:25		X	HA-3 (6-12)	6	12		1			X		008
S	9/7/2017	12:30		X	HA-3 (12-18)	12	18		1				X	009
S	9/7/2017	12:35		X	HA-4 (0-6)	0	6		1	X	X	X		010
S	9/7/2017	12:40		X	HA-4 (6-12)	6	12		1			X		011
S	9/7/2017	12:45		X	HA-4 (12-18)	12	18		1				X	012
S	9/7/2017	12:50		X	HA-5 (0-6)	0	6	1		X	X	X		013
S	9/7/2017	12:55		X	HA-6 (0-6)	0	6	1		X	X	X		014
S	9/7/2017	13:00		X	HA-7 (0-6)	0	6	1		X	X	X		015
S	9/7/2017	13:05		X	HA-8 (0-6)	0	6	1		X	X	X		016

TURNAROUND TIME ☐ Normal ☐ 48-Hour Rush ☐ 24-Hour Rush

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
ZCon	9-8-17	15:15	K. Wolfe	9.8.17	15:15
K. Wolfe	9.8.17	17:20			
			TR	9/8/17	15:15

NOTES:

e-mail results to:

kcwilliams@terracon.com
zach.conder@terracon.com

Matrix: WW-Wastewater; W - Water; S - Soil; L - Liquid; A - Air Bag; C - Charcoal tube; SL - Sludge
Container: VOA - 40 ml vial; A/G - Amber Glass 1L; 250 ml = Glass wide mouth; P/O - Plastic or other _____

Inter-Office Shipment

IOS Number **1048679**

Date/Time: 09/11/17 14:55
Lab# From: **Lubbock**
Lab# To: **Houston**

Created by: Ashley Derstine
Delivery Priority:
Air Bill No.: 770231389389

Please send report to: Kelsey Brooks
Address: 6701 Aberdeen, Suite 9 Lubbock, TX 79424
Phone:
E-Mail: kelsey.brooks@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
562436-001	S	HA-1(0-6)	09/07/17 11:50	SW8260BTX	BTEX by SW 8260B	09/14/17	09/21/17	KEB	BZ BZME EBZ XYLMP X	
562436-004	S	HA-2(0-6)	09/07/17 12:05	SW8260BTX	BTEX by SW 8260B	09/14/17	09/21/17	KEB	BZ BZME EBZ XYLMP X	
562436-007	S	HA-3(0-6)	09/07/17 12:20	SW8260BTX	BTEX by SW 8260B	09/14/17	09/21/17	KEB	BZ BZME EBZ XYLMP X	
562436-010	S	HA-4(0-6)	09/07/17 12:35	SW8260BTX	BTEX by SW 8260B	09/14/17	09/21/17	KEB	BZ BZME EBZ XYLMP X	
562436-013	S	HA-5(0-6)	09/07/17 12:50	SW8260BTX	BTEX by SW 8260B	09/14/17	09/21/17	KEB	BZ BZME EBZ XYLMP X	
562436-014	S	HA-6(0-6)	09/07/17 12:55	SW8260BTX	BTEX by SW 8260B	09/14/17	09/21/17	KEB	BZ BZME EBZ XYLMP X	
562436-015	S	HA-7(0-6)	09/07/17 13:00	SW8260BTX	BTEX by SW 8260B	09/14/17	09/21/17	KEB	BZ BZME EBZ XYLMP X	
562436-016	S	HA-8(0-6)	09/07/17 13:05	SW8260BTX	BTEX by SW 8260B	09/14/17	09/21/17	KEB	BZ BZME EBZ XYLMP X	

Inter Office Shipment or Sample Comments:

Relinquished By 
Ashley Derstine

Date Relinquished: 09/11/2017

Received By: 
Rene Vandenberghe

Date Received: 09/12/2017 09:15

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 1048679

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

Sent By: Ashley Derstine **Date Sent:** 09/11/2017 02:55 PM

Received By: Rene Vandenberghe **Date Received:** 09/12/2017 09:15 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	4.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: R. C. Vandenberghe Date: 09/12/2017
Rene Vandenberghe

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon Lubbock

Date/ Time Received: 09/08/2017 03:15:00 PM

Work Order #: 562436

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

Temperature Measuring device used : IR3

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#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)?	**Yes**	Houston
#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: Ashley Derstine Date: 09/11/2017

Checklist reviewed by: Kelsey Brooks Date: 09/11/2017