

**Terra Oilfield Services**  
**Biliken 6 Federal 1H-Release #1**  
**Closure Report**

**Section 16, Township 26S, Range 34E**  
**Lea County, New Mexico**

**April 17, 2018**



**Prepared for:**

**Terra Oilfield Services**  
**15487 Pin Oak Drive**  
**Conroe, TX 77384**

**By:**

**Safety & Environmental Solutions, Inc.**  
**703 East Clinton Street**  
**Hobbs, New Mexico 88240**  
**(575) 397-0510**

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**I. Company Contacts**

<b>Representative</b>	<b>Company</b>	<b>Telephone</b>	<b>E-mail</b>
Todd Nilson	Terra Oilfield Services	618-407-6696	Todd.nilson@terraofs.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

**II. Background**

Safety and Environmental Solutions, Inc., hereinafter referred to as (SESI) was engaged by Terra Oilfield Services to assess a spill area on the Biliken 6 Federal 1H Release #1, concerning a eight (8) bbl. treated water release. This site is situated in Lea County, Section 16, Township 26S, and Range 34E.

According to the C-141: approximately eight (8) barrels of treated water was released when a transfer line pressured up and a flange at a road crossing failed. Soil sampling will be conducted and a remediation plan determined upon receipt of sampling results.

**III. Surface and Ground Water**

There is no record of groundwater in the immediate vicinity of the site location. Further research of the New Mexico Office of the State Engineer records indicates the average depth to groundwater for the area to be 240' bgs.

**IV. Characterization**

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). Based on the ranking criteria presented below, the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and total xylenes (BTEX), and 5,000 ppm Total Petroleum Hydrocarbons (TPH). Characterization of vertical extent of chloride concentration to a level of 250 mg/kg (PPM) is also required.

<b>Depth to Ground Water:</b>			
(Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	20 points	
	50 feet to 99 feet	10 points	
	>100 feet	0 points	<b>X</b>
<b>Wellhead Protection Area:</b>			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	
	No	0 points	<b>X</b>
<b>Distance to Surface Water:</b>			
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet	20 points	
	200 feet to 1000 feet	10 points	
	>1000 feet	0 points	<b>X</b>
<b>RANKING SCORE (TOTAL POINTS)</b>			<b>0</b>

**V. Work Performed**

On March 29, 2017 Safety and Environmental Solutions, Inc. (SESI) personnel, are onsite to look over the Terra Biliken release #1 and to determine where to install the boreholes using the Geo probe to determine vertical extent of contamination. After looking over the release area, SESI personnel advised to bore down to four feet and every four feet to field test the soil samples. Borehole one was installed to the depth of ten feet. The soil was wet, red sand to four feet, five to twelve feet caliche, clay mix a lot of moisture. At the four to eight foot boring the plastic core liner crimped up and was easily extracted. At the eight to twelve foot boring the plastic liner again crimped up inside the core barrel and we had a hard time extracting the liner and soil sample. The liner and soil sample was lost in removing and clearing the core barrel and boring was stopped. Soil sample cores were capped off, labeled and properly preserved. Borehole two was then installed to the depth of refusal at five and half feet. Soil sample cores were capped and properly preserved. The sample points were mapped using the Juno 3B.

On April 7, 2017, SESI personnel was onsite at the Terra Biliken Release #1 with Custom Welding Backhoe w/operator and spotter to install test trenches to determine vertical extent of contamination. Test trench one was installed to the depth of sixteen feet and soil samples were obtained at two foot increments. Soil samples were field tested for Chlorides. The soil character, surface to four feet was red sand, four to eight was red clay caliche mix, and eight to sixteen was hard caliche with one to four inch angular rock. Vertical was met at fourteen feet. Test results were less than 124 ppm at fourteen feet and less than 124 ppm at sixteen. The trench was then backfilled. Trench two was then installed to the depth of thirteen feet to refusal. The soil character, surface to four feet, was red sand; four to eight feet, sand and clay mix; eight to thirteen feet, solid hard caliche rock. Vertical was met at twelve feet with test results 124 ppm and less than 124 ppm at thirteen feet. Trench was then backfilled. Trench three was then installed to refusal at six feet. Soil character, surface to four feet, was red sand; four to six feet, solid rock hard caliche. The test result at six feet refusal was 848 ppm. Trench was then backfilled. Trench four was installed to the depth of refusal at eight feet. Soil character, surface to six feet, red sand clay mix; six to eight feet, caliche to rock solid hard caliche. The test result at eight feet was 608 ppm. Trench was then backfilled. Trench five was installed to the depth of refusal at four feet. Soil character, surface to four feet red sand and clay mix; four foot solid rock hard caliche rock. Test result at four foot was 848 ppm. The soil sample points were mapped using the Juno 3B and photos were taken of the test trenches. The samples were properly packaged, preserved and transported to Cardinal Laboratories of Hobbs, NM by chain of custody, and analyzed for TPH(total petroleum hydrocarbons)(Method 8015M), and Chlorides (Method SM4500CI-B). The results are recapped in the following table:

Terra Oilfield Services Biliken 6 Fed 1H Release #1 Soil Sample Results: Cardinal Laboratories 4-10-2017									
SAMPLE ID	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Total BTEX	Chlorides	TPH GRO	TPH DRO	EXT DRO
TT-1 @ 2ft	<0.050	<0.050	<0.050	<0.150	<0.300	5040	<10.0	<10.0	<10.0
TT-1 @ 6ft	<0.050	<0.050	<0.050	<0.150	<0.300	11800	<10.0	<10.0	<10.0
TT-1 @ 10ft	<0.050	<0.050	<0.050	<0.150	<0.300	2840	<10.0	<10.0	<10.0
TT-1 @ 14ft	<0.050	<0.050	<0.050	<0.150	<0.300	64.0	<10.0	<10.0	<10.0
TT-1 @ 16ft	<0.050	<0.050	<0.050	<0.150	<0.300	48.0	<10.0	<10.0	<10.0
TT-2 @ 2ft	<0.050	<0.050	<0.050	<0.150	<0.300	4930	<10.0	<10.0	<10.0
TT-2 @ 8ft	<0.050	<0.050	<0.050	<0.150	<0.300	2800	<10.0	<10.0	<10.0
TT-2 @ 12ft	<0.050	<0.050	<0.050	<0.150	<0.300	160	<10.0	<10.0	<10.0
TT-2 @ 14ft	<0.050	<0.050	<0.050	<0.150	<0.300	144	<10.0	<10.0	<10.0
TT-3 @ 4ft	<0.050	<0.050	<0.050	<0.150	<0.300	6000	<10.0	<10.0	<10.0
TT-3 @ 6ft	<0.050	<0.050	<0.050	<0.150	<0.300	912	<10.0	<10.0	<10.0
TT-4 @ 4ft	<0.050	<0.050	<0.050	<0.150	<0.300	4240	<10.0	<10.0	<10.0
TT-4 @ 6ft	<0.050	<0.050	<0.050	<0.150	<0.300	1440	<10.0	<10.0	<10.0
TT-4 @ 8ft	<0.050	<0.050	<0.050	<0.150	<0.300	688	<10.0	<10.0	<10.0
TT-5 @ 2ft	<0.050	<0.050	<0.050	<0.150	<0.300	10600	<10.0	<10.0	<10.0
TT-5 @ 4ft	<0.050	<0.050	<0.050	<0.150	<0.300	1020	<10.0	<10.0	<10.0

From March 5, 2018, to March 8, 2018, SESI personnel, along with SDR personnel, were onsite at the Terra Biliken Release #1 to begin remediation and moving the spoils. The excavation began on the far south of the release area. During excavation, water was found at three feet. A water sample was obtained for analyzation, but would not filter due to silty sand in the sample. A large plastic liner was placed near the lease road and the belly dump truck began moving the spoils and stock piling them on the liner. The track hoe continued to excavate the release area. Throughout the excavation, soil samples were obtained and field tested for Chlorides. All soil samples obtained at this time tested Less than 128 ppm. Soil samples were properly preserved. Soil sampling was also performed on the lease road and six auger holes were installed to the depth of three feet and field tested for Chlorides. All test results on the six soil samples were less than 128 ppm. Soil samples were then obtained from the bottom and walls and field tested for Chlorides. Once the excavation of the release area was complete, the belly trucks made multiple trips to disposal. One disposal hauled a total of two hundred forty yards of spoils. Another disposal totaled four hundred sixty yards disposed. All soil samples were properly preserved and all tested under the 250 ppm range for Chlorides. Akome personnel was onsite and installed the 20 mil. liner. All spoils piles were moved to one pile near the lease road. The excavation and sample points were mapped using the Juno 3B. Photos were taken of the excavation before and after the liner was installed.

From March 12, 2018 to March 16, 2018, SESI personnel, along with SDR personnel, were onsite the Terra Biliken Release #1 to continue loading and hauling spoils. The trucks make two trips each for a total of three hundred twenty yards of spoils disposed. The hauling of the spoils was completed and back filling the excavation began. The area where the spoils were stock piled to finish was back dragged. A small water truck was brought onsite to water down the lease road which allowed the dump trucks to back up to the excavation while the back hoe pushed the back fill into the excavation. One hundred thirty two yards of back was fill hauled in. The dump trucks made several trips to disposal for a total of three hundred ninety six yards of back fill hauled in. The back fill is pushed in and back dragged to finish by the back hoe.

The samples were properly packaged, preserved and transported to Cardinal Laboratories of Hobbs, NM and Hall Environmental Analysis Laboratory of Albuquerque, NM by chain of custody, and analyzed for TPH(total petroleum hydrocarbons)(Method 8015M), and Chlorides (Method 300). The results are recapped in the following table:

Terra Oilfield Services Release #1 Results: 3-21-2018									
SAMPLE ID	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Total BTEX	TPH GRO C6- C10	TPH DRO C10- C28	TPH DRO C28- C36	Chlorides
SP-1 South Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-2 West Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-3 East Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-4 Bottom 4ft	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-5 Bottom 4ft	ND	ND	ND	ND	ND	ND	ND	ND	37
SP-6 West Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-7 East Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-8 Bottom 4ft	ND	ND	ND	ND	ND	ND	ND	ND	75
SP-9 West Wall	ND	ND	ND	ND	ND	ND	ND	ND	71
SP-10 East Wall	ND	ND	ND	ND	ND	ND	ND	ND	72
SP-11 West Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-12 East Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-13 West Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-14 Bottom 4ft	ND	ND	ND	ND	ND	ND	ND	ND	74
SP-15 North Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-16 Bottom 4ft	ND	ND	ND	ND	ND	ND	ND	ND	65
SP-17 North Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-18 South Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-19 East Wall	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-20 Bottom 3ft	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-21 Bottom 3ft	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-22 Bottom 3ft	ND	ND	ND	ND	ND	ND	ND	ND	35

**VI. Request for Closure**

The impacted area was excavation to a depth of approximately 4' bgs where all vertical and horizontal results of the confirmation sampling indicate that all soils impacted above 100 ppm TPH and 250 ppm Chlorides were removed and transported to an approved NMOCD facility for disposal. In view of the confirmation sampling, no liner was installed on the bottom of the excavation. The area was backfilled with clean soil and returned to grade. Terra Oilfield Services submits this closure report and requests that no further action be required.

**VII. Figures & Appendices**

Figure 1 - Vicinity Map

Figure 2 - Site Plan

Appendix A – C-141

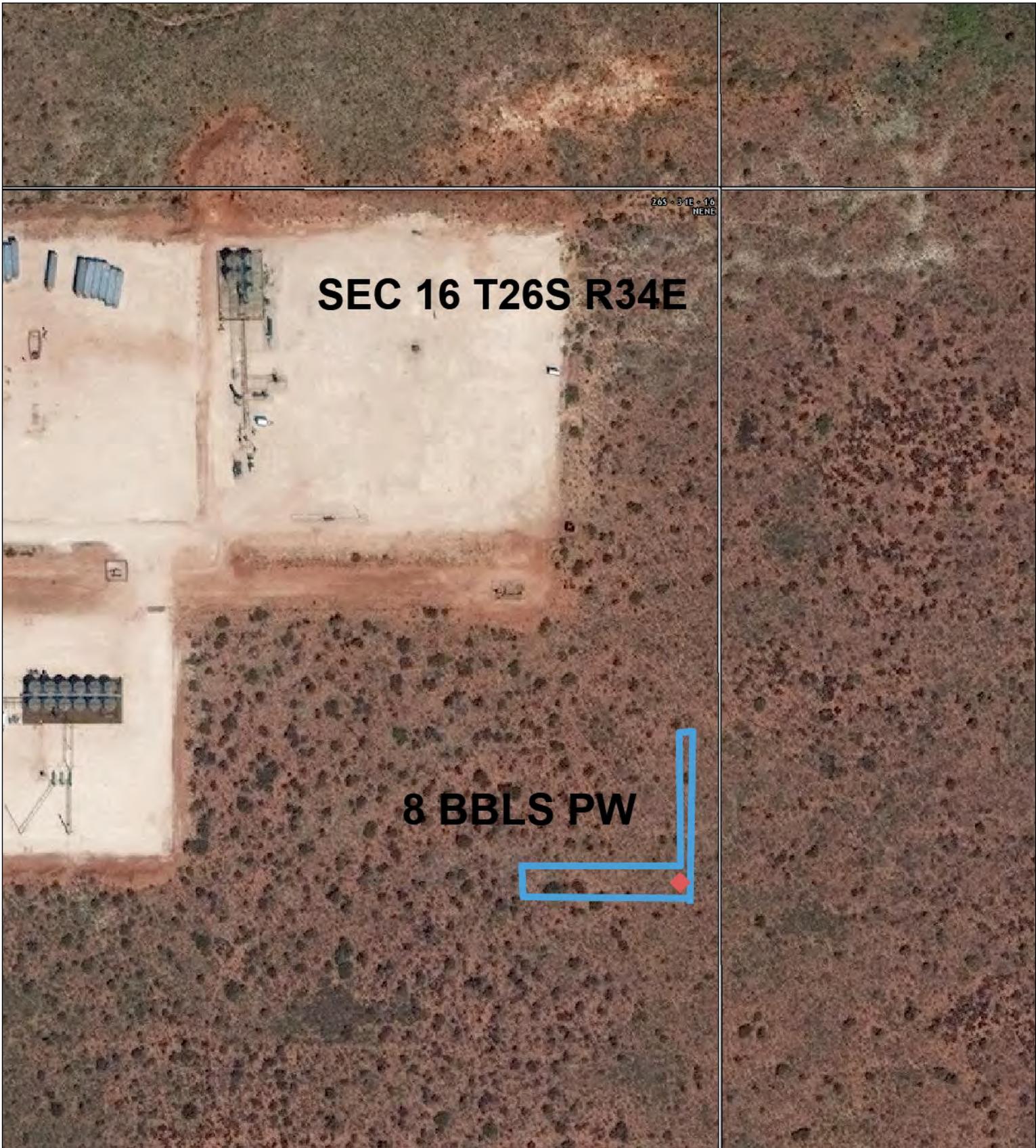
Appendix B – Groundwater

Appendix C – Analytical Results

Appendix D – Photo Documentation

# **Figure 1**

## **Vicinity Map**



Spill 3/20/2017



This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere  
Prepared by: Menoud  
Map is current as of: 23-Mar-2017



Miles

0 0.01 0.02 0.04 1:1,779



**Figure 2**  
**Site Plan**

# Terra Oilfield Services

Biliken 6Fed Release #1

## Legend

- Feature 1
- Feature 2
- Pipeline 3
- Release Point 2
- Terra Biliken 6FED 1H & 2H Release #1

Terra Biliken 6FED 1H & 2H Release #1

Release Point 2

16

26S 34E

W103.468°

Survey  
Google earth  
© 2016 Google

500 ft



**Terra Release #1**  
Map: 3-9-18

**Legend**

- Excavation
- Feature 1
- SP

SP 19 East Wall  
SP 17 North Wall  
SP 15 North Wall SP 16 Bottom 4ft  
SP 18 South Wall SP 18 South Wall  
SP 14 Bottom 4ft  
SP 13 West Wall SP 20 Bottom 3ft  
SP 21 Bottom 3ft  
SP 22 Bottom 3ft  
SP 11 West Wall  
SP 12 East Wall  
SP 9 West Wall  
SP 8 Bottom 4ft  
SP 6 West Wall SP 7 East Wall  
SP 4 Bottom 4ft SP 3 East Wall  
SP 2 West Wall SP 1 South Wall



100 ft

Google Earth  
©2018 Google

**Appendix A**  
**C-141**

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

Form C-141  
Revised August 8, 2011

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

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: <b>Devon Energy Production Co LP (6137)</b>	Contact: <b>Stephen Richards, Devon Completions Foreman</b>
Address: <b>PO Box 250 Artesia, NM 88211</b>	Telephone No. <b>575-252-3717</b>
Facility Name: <b>Billiken 6 Federal 1H</b>	Facility Type: <b>Oil Well</b>
Surface Owner: <b>State</b>	Mineral Owner: <b>State</b> API No. <b>30-025-42685</b>

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
<b>A</b>	<b>16</b>	<b>26S</b>	<b>34E</b>	<b>660</b>	<b>NORTH</b>	<b>30</b>	<b>EAST</b>	<b>LEA</b>

Latitude: **32.048490 N** Longitude: **-103.466538 W**

**NATURE OF RELEASE**

Type of Release: <b>TREATED WATER</b>	Volume of Release: <b>8 BBLs</b>	Volume Recovered: <b>0 BBLs</b>
Source of Release: <b>FAILED FLANGE ON WATER LINE</b>	Date and Hour of Occurrence: <b>3/20/2017; 7:00 PM</b>	Date and Hour of Discovery: <b>3/20/2017; 7:00 PM</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? <b>N/A</b>	
By Whom? <b>N/A</b>	Date and Hour: <b>N/A</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>N/A</b>	

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

Describe Cause of Problem and Remedial Action Taken.\*  
After completing a frac stage the contractor completed filling the minion, the contractor on location radioed the pump operators to shut down. He then shut the valve on the minion without verifying pump shutdown. At that time, the transfer line pressured up and a flange at a road crossing failed. When the pump operator noticed the pressure drop at the pump, he shut down the pump and inspected the line. Once identified, the line was pinched off to prevent any further water loss. Repairs were made immediately made to the line.

Describe Area Affected and Cleanup Action Taken.\*  
The spill area affected is approximately 140' x 10' running North and South and 197' x 14' running East and West on the pipeline easement following the lease road. A central location of the spill is: Lat - N 32.048490; Long - W -103.466538 and is approximately 3.28 miles Southwest of the Billiken 6 Fed #1. An estimated 8 barrels of treated produced water was spilled and none was recovered, all water soaked into the sand. A remediation contractor will be contacted.

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: <i>Denise Menoud</i>	<u><b>OIL CONSERVATION DIVISION</b></u>	
Printed Name: <b>Denise Menoud</b>	Approved by Environmental Specialist:	
Title: <b>Field Admin Support</b>	Approval Date:	Expiration Date:
E-mail Address: <b>Denise.Menoud@dvn.com</b>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>3/23/2017</b> Phone: <b>575-746-5544</b>		

\* Attach Additional Sheets If Necessary

# **Appendix B**

## **Groundwater**



# 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-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
<a href="#">C 03795 POD1</a>	C	LE	4	4	3	24	26S	35E	658419	3544221		496	250	246
<a href="#">J 00005 POD1</a>		LE	2	2	2	13	26S	35E	659200	3547174*		601	230	371

Average Depth to Water: **240 feet**

Minimum Depth: **230 feet**

Maximum Depth: **250 feet**

**Record Count: 2**

**PLSS Search:**

**Township: 26S**

**Range: 35E**

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

# **Appendix C**

## **Analytical Results**

April 13, 2017

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: TER -17-001

Enclosed are the results of analyses for samples received by the laboratory on 04/10/17 11:07.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-1 2' (H700944-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/11/2017	ND	1.93	96.4	2.00	1.12	
Toluene*	<0.050	0.050	04/11/2017	ND	1.80	89.8	2.00	1.43	
Ethylbenzene*	<0.050	0.050	04/11/2017	ND	1.78	88.9	2.00	1.48	
Total Xylenes*	<0.150	0.150	04/11/2017	ND	5.05	84.2	6.00	1.42	
Total BTEX	<0.300	0.300	04/11/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>5040</b>	16.0	04/12/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 89.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.9 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-1 6' (H700944-02)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/11/2017	ND	1.93	96.4	2.00	1.12	
Toluene*	<0.050	0.050	04/11/2017	ND	1.80	89.8	2.00	1.43	
Ethylbenzene*	<0.050	0.050	04/11/2017	ND	1.78	88.9	2.00	1.48	
Total Xylenes*	<0.150	0.150	04/11/2017	ND	5.05	84.2	6.00	1.42	
Total BTEX	<0.300	0.300	04/11/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>11800</b>	16.0	04/12/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 86.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

Received:	04/10/2017	Sampling Date:	04/07/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	TER -17-001	Sampling Condition:	Cool & Intact
Project Number:	TER - 17- 001	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

**Sample ID: TT-1 10' (H700944-03)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/11/2017	ND	1.93	96.4	2.00	1.12		
Toluene*	<0.050	0.050	04/11/2017	ND	1.80	89.8	2.00	1.43		
Ethylbenzene*	<0.050	0.050	04/11/2017	ND	1.78	88.9	2.00	1.48		
Total Xylenes*	<0.150	0.150	04/11/2017	ND	5.05	84.2	6.00	1.42		
Total BTEX	<0.300	0.300	04/11/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>2840</b>	16.0	04/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14		
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91		
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND						

Surrogate: 1-Chlorooctane 82.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

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 Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-1 14' (H700944-04)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/11/2017	ND	1.93	96.4	2.00	1.12		
Toluene*	<0.050	0.050	04/11/2017	ND	1.80	89.8	2.00	1.43		
Ethylbenzene*	<0.050	0.050	04/11/2017	ND	1.78	88.9	2.00	1.48		
Total Xylenes*	<0.150	0.150	04/11/2017	ND	5.05	84.2	6.00	1.42		
Total BTEX	<0.300	0.300	04/11/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>64.0</b>	16.0	04/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14		
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91		
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND						

Surrogate: 1-Chlorooctane 90.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

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 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-1 16' (H700944-05)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/11/2017	ND	1.93	96.4	2.00	1.12		
Toluene*	<0.050	0.050	04/11/2017	ND	1.80	89.8	2.00	1.43		
Ethylbenzene*	<0.050	0.050	04/11/2017	ND	1.78	88.9	2.00	1.48		
Total Xylenes*	<0.150	0.150	04/11/2017	ND	5.05	84.2	6.00	1.42		
Total BTEX	<0.300	0.300	04/11/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>48.0</b>	16.0	04/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14		
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91		
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND						

Surrogate: 1-Chlorooctane 88.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

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 Bob Allen  
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 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-2 2' (H700944-06)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/11/2017	ND	1.93	96.4	2.00	1.12	
Toluene*	<0.050	0.050	04/11/2017	ND	1.80	89.8	2.00	1.43	
Ethylbenzene*	<0.050	0.050	04/11/2017	ND	1.78	88.9	2.00	1.48	
Total Xylenes*	<0.150	0.150	04/11/2017	ND	5.05	84.2	6.00	1.42	
Total BTEX	<0.300	0.300	04/11/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>4930</b>	16.0	04/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 85.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

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Received:	04/10/2017	Sampling Date:	04/07/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	TER -17-001	Sampling Condition:	Cool & Intact
Project Number:	TER - 17- 001	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

**Sample ID: TT-2 8' (H700944-07)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/11/2017	ND	1.93	96.4	2.00	1.12	
Toluene*	<0.050	0.050	04/11/2017	ND	1.80	89.8	2.00	1.43	
Ethylbenzene*	<0.050	0.050	04/11/2017	ND	1.78	88.9	2.00	1.48	
Total Xylenes*	<0.150	0.150	04/11/2017	ND	5.05	84.2	6.00	1.42	
Total BTEX	<0.300	0.300	04/11/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>2800</b>	16.0	04/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 93.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.1 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-2 12' (H700944-08)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/11/2017	ND	1.93	96.4	2.00	1.12	
Toluene*	<0.050	0.050	04/11/2017	ND	1.80	89.8	2.00	1.43	
Ethylbenzene*	<0.050	0.050	04/11/2017	ND	1.78	88.9	2.00	1.48	
Total Xylenes*	<0.150	0.150	04/11/2017	ND	5.05	84.2	6.00	1.42	
Total BTEX	<0.300	0.300	04/11/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>160</b>	16.0	04/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 92.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-2 14' (H700944-09)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/11/2017	ND	1.93	96.4	2.00	1.12	
Toluene*	<0.050	0.050	04/11/2017	ND	1.80	89.8	2.00	1.43	
Ethylbenzene*	<0.050	0.050	04/11/2017	ND	1.78	88.9	2.00	1.48	
Total Xylenes*	<0.150	0.150	04/11/2017	ND	5.05	84.2	6.00	1.42	
Total BTEX	<0.300	0.300	04/11/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>144</b>	16.0	04/11/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 88.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.3 % 34.7-157

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 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-3 4' (H700944-10)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/12/2017	ND	1.73	86.6	2.00	1.84	
Toluene*	<0.050	0.050	04/12/2017	ND	1.62	81.2	2.00	1.50	
Ethylbenzene*	<0.050	0.050	04/12/2017	ND	1.62	80.8	2.00	2.04	
Total Xylenes*	<0.150	0.150	04/12/2017	ND	4.58	76.3	6.00	1.63	
Total BTEX	<0.300	0.300	04/12/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>6000</b>	16.0	04/11/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 86.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.9 % 34.7-157

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**Analytical Results For:**

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 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-3 6' (H700944-11)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/12/2017	ND	1.73	86.6	2.00	1.84	
Toluene*	<0.050	0.050	04/12/2017	ND	1.62	81.2	2.00	1.50	
Ethylbenzene*	<0.050	0.050	04/12/2017	ND	1.62	80.8	2.00	2.04	
Total Xylenes*	<0.150	0.150	04/12/2017	ND	4.58	76.3	6.00	1.63	
Total BTEX	<0.300	0.300	04/12/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.6 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>912</b>	16.0	04/11/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 79.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.3 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-4 4' (H700944-12)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/12/2017	ND	1.73	86.6	2.00	1.84	
Toluene*	<0.050	0.050	04/12/2017	ND	1.62	81.2	2.00	1.50	
Ethylbenzene*	<0.050	0.050	04/12/2017	ND	1.62	80.8	2.00	2.04	
Total Xylenes*	<0.150	0.150	04/12/2017	ND	4.58	76.3	6.00	1.63	
Total BTEX	<0.300	0.300	04/12/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>4240</b>	16.0	04/11/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 73.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 74.5 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-4 6' (H700944-13)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/12/2017	ND	1.73	86.6	2.00	1.84	
Toluene*	<0.050	0.050	04/12/2017	ND	1.62	81.2	2.00	1.50	
Ethylbenzene*	<0.050	0.050	04/12/2017	ND	1.62	80.8	2.00	2.04	
Total Xylenes*	<0.150	0.150	04/12/2017	ND	4.58	76.3	6.00	1.63	
Total BTEX	<0.300	0.300	04/12/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1440</b>	16.0	04/11/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 86.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.0 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-4 8' (H700944-14)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/12/2017	ND	1.73	86.6	2.00	1.84	
Toluene*	<0.050	0.050	04/12/2017	ND	1.62	81.2	2.00	1.50	
Ethylbenzene*	<0.050	0.050	04/12/2017	ND	1.62	80.8	2.00	2.04	
Total Xylenes*	<0.150	0.150	04/12/2017	ND	4.58	76.3	6.00	1.63	
Total BTEX	<0.300	0.300	04/12/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>688</b>	16.0	04/11/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 86.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.5 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 04/10/2017  
 Reported: 04/13/2017  
 Project Name: TER -17-001  
 Project Number: TER - 17- 001  
 Project Location: NOT GIVEN

 Sampling Date: 04/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: TT-5 2' (H700944-15)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/12/2017	ND	1.73	86.6	2.00	1.84	
Toluene*	<0.050	0.050	04/12/2017	ND	1.62	81.2	2.00	1.50	
Ethylbenzene*	<0.050	0.050	04/12/2017	ND	1.62	80.8	2.00	2.04	
Total Xylenes*	<0.150	0.150	04/12/2017	ND	4.58	76.3	6.00	1.63	
Total BTEX	<0.300	0.300	04/12/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>10600</b>	16.0	04/11/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 82.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.1 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

Received:	04/10/2017	Sampling Date:	04/07/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	TER -17-001	Sampling Condition:	Cool & Intact
Project Number:	TER - 17- 001	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

**Sample ID: TT-5 4' (H700944-16)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/12/2017	ND	1.73	86.6	2.00	1.84	QR-03
Toluene*	<0.050	0.050	04/12/2017	ND	1.62	81.2	2.00	1.50	QR-03
Ethylbenzene*	<0.050	0.050	04/12/2017	ND	1.62	80.8	2.00	2.04	QR-03
Total Xylenes*	<0.150	0.150	04/12/2017	ND	4.58	76.3	6.00	1.63	QR-03
Total BTEX	<0.300	0.300	04/12/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1020</b>	16.0	04/11/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/11/2017	ND	194	96.8	200	2.14	
DRO >C10-C28	<10.0	10.0	04/11/2017	ND	200	100	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	04/11/2017	ND					

Surrogate: 1-Chlorooctane 91.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.9 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

- QR-03      The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCS/D recovery and/or RPD values.
- ND      Analyte NOT DETECTED at or above the reporting limit
- RPD      Relative Percent Difference
- \*\*      Samples not received at proper temperature of 6°C or below.
- \*\*\*      Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report



---

Celey D. Keene, Lab Director/Quality Manager





# CARDINAL Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

*Pg 2 of 2*

### BILL TO

### ANALYSIS REQUEST

P.O. #: \_\_\_\_\_  
Company: Same

Attn: \_\_\_\_\_  
Address: \_\_\_\_\_

City: \_\_\_\_\_  
State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_

Project Name: \_\_\_\_\_  
Project Location: \_\_\_\_\_

Sampler Name: \_\_\_\_\_  
FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
H100944	6A	g	1			X			04/07	1330	X TPH (80150A)	
	4A	g	1			X			04/07	1345	X BTEX	
	6A	g	1			X			04/07	1355	X Chlorides	
	8A	g	1			X			04/07	1400		
	2A	g	1			X			04/07	1430		
	4A	g	1			X			04/07	1440		

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Relinquished By: *[Signature]* Date: *04/07* Received By: *[Signature]* Date: *04/07*

Reiniquished By: *[Signature]* Date: *04/07* Received By: *[Signature]* Date: *04/07*

Delivered By: (Circle One) *UPS* *3.32*

Sampler - UPS - Bus - Other: *3.32*

Sample Condition:  Intact  Cool  Yes  No

CHECKED BY: *[Signature]* (Initials) *ck #75*

Phone Result:  Yes  No  Add'l Phone #: \_\_\_\_\_  
Fax Result:  Yes  No  Add'l Fax #: \_\_\_\_\_

REMARKS:



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

March 21, 2018

Bob Allen  
Safety & Environmental Solutions  
PO Box 1613  
Hobbs, NM 88241  
TEL: (575) 397-0510  
FAX (575) 393-4388

RE: Terry Billiken Release #1

OrderNo.: 1803587

Dear Bob Allen:

Hall Environmental Analysis Laboratory received 22 sample(s) on 3/10/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-13 West Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 10:15:00 AM

**Lab ID:** 1803587-001

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 11:31:36 AM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/15/2018 2:29:56 PM	37025
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/15/2018 2:29:56 PM	37025
Surr: DNOP	104	70-130		%Rec	1	3/15/2018 2:29:56 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/14/2018 12:17:02 PM	36994
Surr: BFB	100	15-316		%Rec	1	3/14/2018 12:17:02 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	3/14/2018 12:17:02 PM	36994
Benzene	ND	0.024		mg/Kg	1	3/14/2018 12:17:02 PM	36994
Toluene	ND	0.048		mg/Kg	1	3/14/2018 12:17:02 PM	36994
Ethylbenzene	ND	0.048		mg/Kg	1	3/14/2018 12:17:02 PM	36994
Xylenes, Total	ND	0.096		mg/Kg	1	3/14/2018 12:17:02 PM	36994
Surr: 4-Bromofluorobenzene	97.7	80-120		%Rec	1	3/14/2018 12:17:02 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-14 Bottom 4ft.

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 12:10:00 PM

**Lab ID:** 1803587-002

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	74	30		mg/Kg	20	3/17/2018 12:08:50 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/15/2018 3:36:12 PM	37025
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/15/2018 3:36:12 PM	37025
Surr: DNOP	106	70-130		%Rec	1	3/15/2018 3:36:12 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/14/2018 1:27:51 PM	36994
Surr: BFB	97.6	15-316		%Rec	1	3/14/2018 1:27:51 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.092		mg/Kg	1	3/14/2018 1:27:51 PM	36994
Benzene	ND	0.023		mg/Kg	1	3/14/2018 1:27:51 PM	36994
Toluene	ND	0.046		mg/Kg	1	3/14/2018 1:27:51 PM	36994
Ethylbenzene	ND	0.046		mg/Kg	1	3/14/2018 1:27:51 PM	36994
Xylenes, Total	ND	0.092		mg/Kg	1	3/14/2018 1:27:51 PM	36994
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	3/14/2018 1:27:51 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-15 North Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 10:30:00 AM

**Lab ID:** 1803587-003

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 12:21:14 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/15/2018 3:58:29 PM	37025
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/15/2018 3:58:29 PM	37025
Surr: DNOP	102	70-130		%Rec	1	3/15/2018 3:58:29 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/14/2018 2:38:15 PM	36994
Surr: BFB	98.5	15-316		%Rec	1	3/14/2018 2:38:15 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	3/14/2018 2:38:15 PM	36994
Benzene	ND	0.024		mg/Kg	1	3/14/2018 2:38:15 PM	36994
Toluene	ND	0.048		mg/Kg	1	3/14/2018 2:38:15 PM	36994
Ethylbenzene	ND	0.048		mg/Kg	1	3/14/2018 2:38:15 PM	36994
Xylenes, Total	ND	0.097		mg/Kg	1	3/14/2018 2:38:15 PM	36994
Surr: 4-Bromofluorobenzene	94.7	80-120		%Rec	1	3/14/2018 2:38:15 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-16 Bottom 4ft.

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 10:45:00 AM

**Lab ID:** 1803587-004

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	65	30		mg/Kg	20	3/17/2018 12:33:39 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	3/15/2018 4:20:35 PM	37025
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	3/15/2018 4:20:35 PM	37025
Surr: DNOP	105	70-130		%Rec	1	3/15/2018 4:20:35 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/14/2018 3:01:44 PM	36994
Surr: BFB	97.5	15-316		%Rec	1	3/14/2018 3:01:44 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	3/14/2018 3:01:44 PM	36994
Benzene	ND	0.024		mg/Kg	1	3/14/2018 3:01:44 PM	36994
Toluene	ND	0.048		mg/Kg	1	3/14/2018 3:01:44 PM	36994
Ethylbenzene	ND	0.048		mg/Kg	1	3/14/2018 3:01:44 PM	36994
Xylenes, Total	ND	0.096		mg/Kg	1	3/14/2018 3:01:44 PM	36994
Surr: 4-Bromofluorobenzene	95.0	80-120		%Rec	1	3/14/2018 3:01:44 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-17 North Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 11:05:00 AM

**Lab ID:** 1803587-005

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 12:46:03 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/15/2018 4:42:52 PM	37025
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/15/2018 4:42:52 PM	37025
Surr: DNOP	103	70-130		%Rec	1	3/15/2018 4:42:52 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/14/2018 3:25:04 PM	36994
Surr: BFB	99.1	15-316		%Rec	1	3/14/2018 3:25:04 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.093		mg/Kg	1	3/14/2018 3:25:04 PM	36994
Benzene	ND	0.023		mg/Kg	1	3/14/2018 3:25:04 PM	36994
Toluene	ND	0.046		mg/Kg	1	3/14/2018 3:25:04 PM	36994
Ethylbenzene	ND	0.046		mg/Kg	1	3/14/2018 3:25:04 PM	36994
Xylenes, Total	ND	0.093		mg/Kg	1	3/14/2018 3:25:04 PM	36994
Surr: 4-Bromofluorobenzene	95.2	80-120		%Rec	1	3/14/2018 3:25:04 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-18 South Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 12:25:00 PM

**Lab ID:** 1803587-006

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 12:58:28 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/15/2018 5:05:01 PM	37025
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/15/2018 5:05:01 PM	37025
Surr: DNOP	108	70-130		%Rec	1	3/15/2018 5:05:01 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/14/2018 3:48:30 PM	36994
Surr: BFB	102	15-316		%Rec	1	3/14/2018 3:48:30 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	3/14/2018 3:48:30 PM	36994
Benzene	ND	0.024		mg/Kg	1	3/14/2018 3:48:30 PM	36994
Toluene	ND	0.049		mg/Kg	1	3/14/2018 3:48:30 PM	36994
Ethylbenzene	ND	0.049		mg/Kg	1	3/14/2018 3:48:30 PM	36994
Xylenes, Total	ND	0.098		mg/Kg	1	3/14/2018 3:48:30 PM	36994
Surr: 4-Bromofluorobenzene	97.5	80-120		%Rec	1	3/14/2018 3:48:30 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-19 East Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 1:30:00 PM

**Lab ID:** 1803587-007

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 1:35:41 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/15/2018 5:27:14 PM	37025
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/15/2018 5:27:14 PM	37025
Surr: DNOP	107	70-130		%Rec	1	3/15/2018 5:27:14 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/14/2018 4:11:56 PM	36994
Surr: BFB	103	15-316		%Rec	1	3/14/2018 4:11:56 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.093		mg/Kg	1	3/14/2018 4:11:56 PM	36994
Benzene	ND	0.023		mg/Kg	1	3/14/2018 4:11:56 PM	36994
Toluene	ND	0.046		mg/Kg	1	3/14/2018 4:11:56 PM	36994
Ethylbenzene	ND	0.046		mg/Kg	1	3/14/2018 4:11:56 PM	36994
Xylenes, Total	ND	0.093		mg/Kg	1	3/14/2018 4:11:56 PM	36994
Surr: 4-Bromofluorobenzene	99.4	80-120		%Rec	1	3/14/2018 4:11:56 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-20 Bottom 3ft.

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 1:45:00 PM

**Lab ID:** 1803587-008

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 2:12:53 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/15/2018 5:49:13 PM	37025
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/15/2018 5:49:13 PM	37025
Surr: DNOP	109	70-130		%Rec	1	3/15/2018 5:49:13 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/14/2018 6:09:21 PM	36994
Surr: BFB	98.0	15-316		%Rec	1	3/14/2018 6:09:21 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	3/14/2018 6:09:21 PM	36994
Benzene	ND	0.024		mg/Kg	1	3/14/2018 6:09:21 PM	36994
Toluene	ND	0.048		mg/Kg	1	3/14/2018 6:09:21 PM	36994
Ethylbenzene	ND	0.048		mg/Kg	1	3/14/2018 6:09:21 PM	36994
Xylenes, Total	ND	0.096		mg/Kg	1	3/14/2018 6:09:21 PM	36994
Surr: 4-Bromofluorobenzene	93.8	80-120		%Rec	1	3/14/2018 6:09:21 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-21 Bottom 3ft.

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 2:00:00 PM

**Lab ID:** 1803587-009

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 2:25:18 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	3/15/2018 6:11:20 PM	37025
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	3/15/2018 6:11:20 PM	37025
Surr: DNOP	111	70-130		%Rec	1	3/15/2018 6:11:20 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/14/2018 6:32:36 PM	36994
Surr: BFB	103	15-316		%Rec	1	3/14/2018 6:32:36 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	3/14/2018 6:32:36 PM	36994
Benzene	ND	0.025		mg/Kg	1	3/14/2018 6:32:36 PM	36994
Toluene	ND	0.049		mg/Kg	1	3/14/2018 6:32:36 PM	36994
Ethylbenzene	ND	0.049		mg/Kg	1	3/14/2018 6:32:36 PM	36994
Xylenes, Total	ND	0.099		mg/Kg	1	3/14/2018 6:32:36 PM	36994
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	3/14/2018 6:32:36 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-22 Bottom 3ft.

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 2:15:00 PM

**Lab ID:** 1803587-010

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	35	30		mg/Kg	20	3/17/2018 2:37:43 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/15/2018 6:33:23 PM	37025
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/15/2018 6:33:23 PM	37025
Surr: DNOP	102	70-130		%Rec	1	3/15/2018 6:33:23 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/14/2018 6:55:48 PM	36994
Surr: BFB	106	15-316		%Rec	1	3/14/2018 6:55:48 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	3/14/2018 6:55:48 PM	36994
Benzene	ND	0.025		mg/Kg	1	3/14/2018 6:55:48 PM	36994
Toluene	ND	0.049		mg/Kg	1	3/14/2018 6:55:48 PM	36994
Ethylbenzene	ND	0.049		mg/Kg	1	3/14/2018 6:55:48 PM	36994
Xylenes, Total	ND	0.099		mg/Kg	1	3/14/2018 6:55:48 PM	36994
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	3/14/2018 6:55:48 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-1 South Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/6/2018 8:30:00 AM

**Lab ID:** 1803587-011

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 2:50:07 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/15/2018 6:55:24 PM	37025
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/15/2018 6:55:24 PM	37025
Surr: DNOP	106	70-130		%Rec	1	3/15/2018 6:55:24 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/14/2018 7:18:58 PM	36994
Surr: BFB	112	15-316		%Rec	1	3/14/2018 7:18:58 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	3/14/2018 7:18:58 PM	36994
Benzene	ND	0.025		mg/Kg	1	3/14/2018 7:18:58 PM	36994
Toluene	ND	0.050		mg/Kg	1	3/14/2018 7:18:58 PM	36994
Ethylbenzene	ND	0.050		mg/Kg	1	3/14/2018 7:18:58 PM	36994
Xylenes, Total	ND	0.10		mg/Kg	1	3/14/2018 7:18:58 PM	36994
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	3/14/2018 7:18:58 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-2 West Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/6/2018 8:45:00 AM

**Lab ID:** 1803587-012

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 3:02:32 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/15/2018 7:17:24 PM	37025
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/15/2018 7:17:24 PM	37025
Surr: DNOP	105	70-130		%Rec	1	3/15/2018 7:17:24 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/14/2018 7:42:06 PM	36994
Surr: BFB	113	15-316		%Rec	1	3/14/2018 7:42:06 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	3/14/2018 7:42:06 PM	36994
Benzene	ND	0.024		mg/Kg	1	3/14/2018 7:42:06 PM	36994
Toluene	ND	0.048		mg/Kg	1	3/14/2018 7:42:06 PM	36994
Ethylbenzene	ND	0.048		mg/Kg	1	3/14/2018 7:42:06 PM	36994
Xylenes, Total	ND	0.096		mg/Kg	1	3/14/2018 7:42:06 PM	36994
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	3/14/2018 7:42:06 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-3 East Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/6/2018 8:55:00 AM

**Lab ID:** 1803587-013

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 3:14:57 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/15/2018 7:39:40 PM	37025
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/15/2018 7:39:40 PM	37025
Surr: DNOP	101	70-130		%Rec	1	3/15/2018 7:39:40 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/14/2018 8:05:19 PM	36994
Surr: BFB	109	15-316		%Rec	1	3/14/2018 8:05:19 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	3/14/2018 8:05:19 PM	36994
Benzene	ND	0.023		mg/Kg	1	3/14/2018 8:05:19 PM	36994
Toluene	ND	0.047		mg/Kg	1	3/14/2018 8:05:19 PM	36994
Ethylbenzene	ND	0.047		mg/Kg	1	3/14/2018 8:05:19 PM	36994
Xylenes, Total	ND	0.094		mg/Kg	1	3/14/2018 8:05:19 PM	36994
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	3/14/2018 8:05:19 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-4 Bottom 4ft.

**Project:** Terry Billiken Release #1

**Collection Date:** 3/6/2018 9:05:00 AM

**Lab ID:** 1803587-014

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 3:27:22 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	3/15/2018 8:01:31 PM	37025
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	3/15/2018 8:01:31 PM	37025
Surr: DNOP	103	70-130		%Rec	1	3/15/2018 8:01:31 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/14/2018 8:28:37 PM	36994
Surr: BFB	111	15-316		%Rec	1	3/14/2018 8:28:37 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.093		mg/Kg	1	3/14/2018 8:28:37 PM	36994
Benzene	ND	0.023		mg/Kg	1	3/14/2018 8:28:37 PM	36994
Toluene	ND	0.047		mg/Kg	1	3/14/2018 8:28:37 PM	36994
Ethylbenzene	ND	0.047		mg/Kg	1	3/14/2018 8:28:37 PM	36994
Xylenes, Total	ND	0.093		mg/Kg	1	3/14/2018 8:28:37 PM	36994
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	3/14/2018 8:28:37 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-5 Bottom 4ft.

**Project:** Terry Billiken Release #1

**Collection Date:** 3/6/2018 11:10:00 AM

**Lab ID:** 1803587-015

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	37	30		mg/Kg	20	3/17/2018 4:04:36 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/15/2018 8:23:34 PM	37025
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/15/2018 8:23:34 PM	37025
Surr: DNOP	103	70-130		%Rec	1	3/15/2018 8:23:34 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/14/2018 8:51:58 PM	36994
Surr: BFB	113	15-316		%Rec	1	3/14/2018 8:51:58 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.093		mg/Kg	1	3/14/2018 8:51:58 PM	36994
Benzene	ND	0.023		mg/Kg	1	3/14/2018 8:51:58 PM	36994
Toluene	ND	0.046		mg/Kg	1	3/14/2018 8:51:58 PM	36994
Ethylbenzene	ND	0.046		mg/Kg	1	3/14/2018 8:51:58 PM	36994
Xylenes, Total	ND	0.093		mg/Kg	1	3/14/2018 8:51:58 PM	36994
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	3/14/2018 8:51:58 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-6 West Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/6/2018 11:30:00 AM

**Lab ID:** 1803587-016

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 4:17:00 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	3/15/2018 8:45:30 PM	37025
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/15/2018 8:45:30 PM	37025
Surr: DNOP	104	70-130		%Rec	1	3/15/2018 8:45:30 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/14/2018 9:15:21 PM	36994
Surr: BFB	118	15-316		%Rec	1	3/14/2018 9:15:21 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.094		mg/Kg	1	3/14/2018 9:15:21 PM	36994
Benzene	ND	0.023		mg/Kg	1	3/14/2018 9:15:21 PM	36994
Toluene	ND	0.047		mg/Kg	1	3/14/2018 9:15:21 PM	36994
Ethylbenzene	ND	0.047		mg/Kg	1	3/14/2018 9:15:21 PM	36994
Xylenes, Total	ND	0.094		mg/Kg	1	3/14/2018 9:15:21 PM	36994
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	1	3/14/2018 9:15:21 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Client Sample ID: SP-7 East wall

Project: Terry Billiken Release #1

Collection Date: 3/6/2018 11:45:00 AM

Lab ID: 1803587-017

Matrix: SOIL

Received Date: 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 4:29:25 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/15/2018 9:07:32 PM	37025
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/15/2018 9:07:32 PM	37025
Surr: DNOP	101	70-130		%Rec	1	3/15/2018 9:07:32 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/14/2018 9:38:47 PM	36994
Surr: BFB	115	15-316		%Rec	1	3/14/2018 9:38:47 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.092		mg/Kg	1	3/14/2018 9:38:47 PM	36994
Benzene	ND	0.023		mg/Kg	1	3/14/2018 9:38:47 PM	36994
Toluene	ND	0.046		mg/Kg	1	3/14/2018 9:38:47 PM	36994
Ethylbenzene	ND	0.046		mg/Kg	1	3/14/2018 9:38:47 PM	36994
Xylenes, Total	ND	0.092		mg/Kg	1	3/14/2018 9:38:47 PM	36994
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	1	3/14/2018 9:38:47 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-8 Bottom 4ft.

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 8:30:00 AM

**Lab ID:** 1803587-018

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	75	30		mg/Kg	20	3/17/2018 4:41:49 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/15/2018 9:29:29 PM	37025
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/15/2018 9:29:29 PM	37025
Surr: DNOP	99.6	70-130		%Rec	1	3/15/2018 9:29:29 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/14/2018 11:11:53 PM	36994
Surr: BFB	121	15-316		%Rec	1	3/14/2018 11:11:53 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.092		mg/Kg	1	3/14/2018 11:11:53 PM	36994
Benzene	ND	0.023		mg/Kg	1	3/14/2018 11:11:53 PM	36994
Toluene	ND	0.046		mg/Kg	1	3/14/2018 11:11:53 PM	36994
Ethylbenzene	ND	0.046		mg/Kg	1	3/14/2018 11:11:53 PM	36994
Xylenes, Total	ND	0.092		mg/Kg	1	3/14/2018 11:11:53 PM	36994
Surr: 4-Bromofluorobenzene	117	80-120		%Rec	1	3/14/2018 11:11:53 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-9 West Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 8:50:00 AM

**Lab ID:** 1803587-019

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	71	30		mg/Kg	20	3/17/2018 4:54:14 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/15/2018 9:51:22 PM	37025
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/15/2018 9:51:22 PM	37025
Surr: DNOP	104	70-130		%Rec	1	3/15/2018 9:51:22 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/14/2018 11:35:08 PM	36994
Surr: BFB	122	15-316		%Rec	1	3/14/2018 11:35:08 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.093		mg/Kg	1	3/14/2018 11:35:08 PM	36994
Benzene	ND	0.023		mg/Kg	1	3/14/2018 11:35:08 PM	36994
Toluene	ND	0.046		mg/Kg	1	3/14/2018 11:35:08 PM	36994
Ethylbenzene	ND	0.046		mg/Kg	1	3/14/2018 11:35:08 PM	36994
Xylenes, Total	ND	0.093		mg/Kg	1	3/14/2018 11:35:08 PM	36994
Surr: 4-Bromofluorobenzene	119	80-120		%Rec	1	3/14/2018 11:35:08 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-10 East Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 9:10:00 AM

**Lab ID:** 1803587-020

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	72	30		mg/Kg	20	3/17/2018 5:06:39 PM	37081
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/15/2018 10:13:12 PM	37025
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/15/2018 10:13:12 PM	37025
Surr: DNOP	104	70-130		%Rec	1	3/15/2018 10:13:12 PM	37025
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/14/2018 11:58:23 PM	36994
Surr: BFB	127	15-316		%Rec	1	3/14/2018 11:58:23 PM	36994
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	3/14/2018 11:58:23 PM	36994
Benzene	ND	0.025		mg/Kg	1	3/14/2018 11:58:23 PM	36994
Toluene	ND	0.049		mg/Kg	1	3/14/2018 11:58:23 PM	36994
Ethylbenzene	ND	0.049		mg/Kg	1	3/14/2018 11:58:23 PM	36994
Xylenes, Total	ND	0.099		mg/Kg	1	3/14/2018 11:58:23 PM	36994
Surr: 4-Bromofluorobenzene	124	80-120	S	%Rec	1	3/14/2018 11:58:23 PM	36994

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-11-West Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 9:30:00 AM

**Lab ID:** 1803587-021

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 5:43:53 PM	37082
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	3/15/2018 10:35:07 PM	37027
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/15/2018 10:35:07 PM	37027
Surr: DNOP	107	70-130		%Rec	1	3/15/2018 10:35:07 PM	37027
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/14/2018 9:55:25 AM	36995
Surr: BFB	97.2	15-316		%Rec	1	3/14/2018 9:55:25 AM	36995
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	3/14/2018 9:55:25 AM	36995
Benzene	ND	0.024		mg/Kg	1	3/14/2018 9:55:25 AM	36995
Toluene	ND	0.048		mg/Kg	1	3/14/2018 9:55:25 AM	36995
Ethylbenzene	ND	0.048		mg/Kg	1	3/14/2018 9:55:25 AM	36995
Xylenes, Total	ND	0.095		mg/Kg	1	3/14/2018 9:55:25 AM	36995
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	3/14/2018 9:55:25 AM	36995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803587

Date Reported: 3/21/2018

**CLIENT:** Safety & Environmental Solutions

**Client Sample ID:** SP-12 East Wall

**Project:** Terry Billiken Release #1

**Collection Date:** 3/8/2018 9:45:00 AM

**Lab ID:** 1803587-022

**Matrix:** SOIL

**Received Date:** 3/10/2018 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	3/17/2018 6:45:57 PM	37082
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/15/2018 11:40:30 PM	37027
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/15/2018 11:40:30 PM	37027
Surr: DNOP	106	70-130		%Rec	1	3/15/2018 11:40:30 PM	37027
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/14/2018 11:06:26 AM	36995
Surr: BFB	95.6	15-316		%Rec	1	3/14/2018 11:06:26 AM	36995
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	3/14/2018 11:06:26 AM	36995
Benzene	ND	0.024		mg/Kg	1	3/14/2018 11:06:26 AM	36995
Toluene	ND	0.048		mg/Kg	1	3/14/2018 11:06:26 AM	36995
Ethylbenzene	ND	0.048		mg/Kg	1	3/14/2018 11:06:26 AM	36995
Xylenes, Total	ND	0.096		mg/Kg	1	3/14/2018 11:06:26 AM	36995
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	3/14/2018 11:06:26 AM	36995

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1803587

21-Mar-18

**Client:** Safety & Environmental Solutions

**Project:** Terry Billiken Release #1

Sample ID <b>MB-37081</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37081</b>		RunNo: <b>49884</b>							
Prep Date: <b>3/17/2018</b>	Analysis Date: <b>3/17/2018</b>		SeqNo: <b>1614548</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID <b>LCS-37081</b>	SampType: <b>ics</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37081</b>		RunNo: <b>49884</b>							
Prep Date: <b>3/17/2018</b>	Analysis Date: <b>3/17/2018</b>		SeqNo: <b>1614549</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.6	90	110			

Sample ID <b>MB-37082</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37082</b>		RunNo: <b>49884</b>							
Prep Date: <b>3/17/2018</b>	Analysis Date: <b>3/17/2018</b>		SeqNo: <b>1614578</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID <b>LCS-37082</b>	SampType: <b>ics</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37082</b>		RunNo: <b>49884</b>							
Prep Date: <b>3/17/2018</b>	Analysis Date: <b>3/17/2018</b>		SeqNo: <b>1614579</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	90	110			

Sample ID <b>MB-37081</b>	SampType: <b>mblk</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37081</b>		RunNo: <b>49933</b>							
Prep Date: <b>3/17/2018</b>	Analysis Date: <b>3/18/2018</b>		SeqNo: <b>1616549</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID <b>LCS-37081</b>	SampType: <b>ics</b>		TestCode: <b>EPA Method 300.0: Anions</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37081</b>		RunNo: <b>49933</b>							
Prep Date: <b>3/17/2018</b>	Analysis Date: <b>3/18/2018</b>		SeqNo: <b>1616550</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.6	90	110			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1803587

21-Mar-18

**Client:** Safety & Environmental Solutions

**Project:** Terry Billiken Release #1

Sample ID	<b>LCS-37027</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37027</b>	RunNo:	<b>49816</b>					
Prep Date:	<b>3/14/2018</b>	Analysis Date:	<b>3/15/2018</b>	SeqNo:	<b>1612106</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	101	70	130			
Surr: DNOP	5.3		5.000		107	70	130			

Sample ID	<b>MB-37027</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37027</b>	RunNo:	<b>49816</b>					
Prep Date:	<b>3/14/2018</b>	Analysis Date:	<b>3/15/2018</b>	SeqNo:	<b>1612107</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		111	70	130			

Sample ID	<b>1803587-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>SP-13 West Wall</b>	Batch ID:	<b>37025</b>	RunNo:	<b>49815</b>					
Prep Date:	<b>3/14/2018</b>	Analysis Date:	<b>3/15/2018</b>	SeqNo:	<b>1612409</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	49.80	0	99.1	55.8	125			
Surr: DNOP	5.0		4.980		99.6	70	130			

Sample ID	<b>LCS-37025</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37025</b>	RunNo:	<b>49815</b>					
Prep Date:	<b>3/14/2018</b>	Analysis Date:	<b>3/15/2018</b>	SeqNo:	<b>1612410</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.7	70	130			
Surr: DNOP	4.9		5.000		98.4	70	130			

Sample ID	<b>MB-37025</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37025</b>	RunNo:	<b>49815</b>					
Prep Date:	<b>3/14/2018</b>	Analysis Date:	<b>3/15/2018</b>	SeqNo:	<b>1612411</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		103	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1803587

21-Mar-18

**Client:** Safety & Environmental Solutions

**Project:** Terry Billiken Release #1

Sample ID	<b>1803587-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>SP-13 West Wall</b>	Batch ID:	<b>37025</b>	RunNo:	<b>49815</b>					
Prep Date:	<b>3/14/2018</b>	Analysis Date:	<b>3/15/2018</b>	SeqNo:	<b>1613271</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.6	48.17	0	99.3	55.8	125	3.12	20	
Surr: DNOP	4.7		4.817		96.7	70	130	0	0	

Sample ID	<b>1803587-021AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>SP-11-West Wall</b>	Batch ID:	<b>37027</b>	RunNo:	<b>49815</b>					
Prep Date:	<b>3/14/2018</b>	Analysis Date:	<b>3/15/2018</b>	SeqNo:	<b>1613292</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.4	46.77	0	99.4	55.8	125			
Surr: DNOP	4.6		4.677		98.7	70	130			

Sample ID	<b>1803587-021AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>SP-11-West Wall</b>	Batch ID:	<b>37027</b>	RunNo:	<b>49815</b>					
Prep Date:	<b>3/14/2018</b>	Analysis Date:	<b>3/15/2018</b>	SeqNo:	<b>1613293</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.3	46.64	0	99.0	55.8	125	0.633	20	
Surr: DNOP	4.5		4.664		97.3	70	130	0	0	

**Qualifiers:**

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                            |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits                |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                                    |
| PQL Practical Quantitative Limit                        | RL Reporting Detection Limit                                |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1803587

21-Mar-18

**Client:** Safety & Environmental Solutions

**Project:** Terry Billiken Release #1

Sample ID <b>MB-36995</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>36995</b>		RunNo: <b>49775</b>							
Prep Date: <b>3/13/2018</b>	Analysis Date: <b>3/14/2018</b>		SeqNo: <b>1611145</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	950		1000		95.4	15	316			

Sample ID <b>LCS-36995</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>36995</b>		RunNo: <b>49775</b>							
Prep Date: <b>3/13/2018</b>	Analysis Date: <b>3/14/2018</b>		SeqNo: <b>1611146</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.2	75.9	131			
Surr: BFB	1000		1000		102	15	316			

Sample ID <b>1803587-022AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>SP-12 East Wall</b>	Batch ID: <b>36995</b>		RunNo: <b>49775</b>							
Prep Date: <b>3/13/2018</b>	Analysis Date: <b>3/14/2018</b>		SeqNo: <b>1611149</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.6	23.23	0	116	77.8	128			
Surr: BFB	1000		929.4		111	15	316			

Sample ID <b>1803587-022AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>SP-12 East Wall</b>	Batch ID: <b>36995</b>		RunNo: <b>49775</b>							
Prep Date: <b>3/13/2018</b>	Analysis Date: <b>3/14/2018</b>		SeqNo: <b>1611150</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.6	22.94	0	115	77.8	128	2.26	20	
Surr: BFB	1000		917.4		111	15	316	0	0	

Sample ID <b>MB-36994</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>36994</b>		RunNo: <b>49775</b>							
Prep Date: <b>3/13/2018</b>	Analysis Date: <b>3/14/2018</b>		SeqNo: <b>1611158</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		96.7	15	316			

Sample ID <b>LCS-36994</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>36994</b>		RunNo: <b>49775</b>							
Prep Date: <b>3/13/2018</b>	Analysis Date: <b>3/14/2018</b>		SeqNo: <b>1611159</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		96.7	15	316			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1803587

21-Mar-18

**Client:** Safety & Environmental Solutions

**Project:** Terry Billiken Release #1

Sample ID	<b>LCS-36994</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>36994</b>	RunNo:	<b>49775</b>					
Prep Date:	<b>3/13/2018</b>	Analysis Date:	<b>3/14/2018</b>	SeqNo:	<b>1611159</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	106	75.9	131			
Surr: BFB	1100		1000		109	15	316			

Sample ID	<b>1803587-002AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SP-14 Bottom 4ft.</b>	Batch ID:	<b>36994</b>	RunNo:	<b>49775</b>					
Prep Date:	<b>3/13/2018</b>	Analysis Date:	<b>3/14/2018</b>	SeqNo:	<b>1611163</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	23.79	0	114	77.8	128			
Surr: BFB	1000		951.5		110	15	316			

Sample ID	<b>1803587-002AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SP-14 Bottom 4ft.</b>	Batch ID:	<b>36994</b>	RunNo:	<b>49775</b>					
Prep Date:	<b>3/13/2018</b>	Analysis Date:	<b>3/14/2018</b>	SeqNo:	<b>1611164</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.7	23.61	0	111	77.8	128	4.10	20	
Surr: BFB	1000		944.3		111	15	316	0	0	

**Qualifiers:**

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                            |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits                |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                                    |
| PQL Practical Quantitative Limit                        | RL Reporting Detection Limit                                |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1803587

21-Mar-18

**Client:** Safety & Environmental Solutions

**Project:** Terry Billiken Release #1

Sample ID <b>MB-36995</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>36995</b>		RunNo: <b>49775</b>							
Prep Date: <b>3/13/2018</b>	Analysis Date: <b>3/14/2018</b>		SeqNo: <b>1611192</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		92.1	80	120			

Sample ID <b>LCS-36995</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>36995</b>		RunNo: <b>49775</b>							
Prep Date: <b>3/13/2018</b>	Analysis Date: <b>3/14/2018</b>		SeqNo: <b>1611193</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.94	0.10	1.000	0	94.1	70.1	121			
Benzene	1.0	0.025	1.000	0	103	77.3	128			
Toluene	1.0	0.050	1.000	0	103	79.2	125			
Ethylbenzene	1.0	0.050	1.000	0	102	80.7	127			
Xylenes, Total	3.1	0.10	3.000	0	104	81.6	129			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.1	80	120			

Sample ID <b>1803587-021AMS</b>	SampType: <b>MS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>SP-11-West Wall</b>	Batch ID: <b>36995</b>		RunNo: <b>49775</b>							
Prep Date: <b>3/13/2018</b>	Analysis Date: <b>3/14/2018</b>		SeqNo: <b>1611195</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.89	0.093	0.9251	0	96.4	56.9	130			
Benzene	1.0	0.023	0.9251	0	109	68.5	133			
Toluene	1.0	0.046	0.9251	0	109	75	130			
Ethylbenzene	1.0	0.046	0.9251	0	108	79.4	128			
Xylenes, Total	3.1	0.093	2.775	0	111	77.3	131			
Surr: 4-Bromofluorobenzene	0.86		0.9251		93.1	80	120			

Sample ID <b>1803587-021AMSD</b>	SampType: <b>MSD</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>SP-11-West Wall</b>	Batch ID: <b>36995</b>		RunNo: <b>49775</b>							
Prep Date: <b>3/13/2018</b>	Analysis Date: <b>3/14/2018</b>		SeqNo: <b>1611196</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.92	0.10	1.000	0	91.8	56.9	130	2.90	20	
Benzene	1.0	0.025	1.000	0	102	68.5	133	1.79	20	
Toluene	1.0	0.050	1.000	0	102	75	130	0.672	20	
Ethylbenzene	1.0	0.050	1.000	0	102	79.4	128	1.44	20	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1803587

21-Mar-18

**Client:** Safety & Environmental Solutions

**Project:** Terry Billiken Release #1

Sample ID	<b>1803587-021AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SP-11-West Wall</b>	Batch ID:	<b>36995</b>	RunNo:	<b>49775</b>					
Prep Date:	<b>3/13/2018</b>	Analysis Date:	<b>3/14/2018</b>	SeqNo:	<b>1611196</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	3.1	0.10	3.000	0	105	77.3	131	1.98	20	
Surr: 4-Bromofluorobenzene	0.92		1.000		91.8	80	120	0	0	

Sample ID	<b>MB-36994</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>36994</b>	RunNo:	<b>49775</b>					
Prep Date:	<b>3/13/2018</b>	Analysis Date:	<b>3/14/2018</b>	SeqNo:	<b>1611206</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		94.4	80	120			

Sample ID	<b>LCS-36994</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>36994</b>	RunNo:	<b>49775</b>					
Prep Date:	<b>3/13/2018</b>	Analysis Date:	<b>3/14/2018</b>	SeqNo:	<b>1611207</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.94	0.10	1.000	0	94.3	70.1	121			
Benzene	1.0	0.025	1.000	0	102	77.3	128			
Toluene	1.0	0.050	1.000	0	101	79.2	125			
Ethylbenzene	0.99	0.050	1.000	0	99.3	80.7	127			
Xylenes, Total	3.1	0.10	3.000	0	103	81.6	129			
Surr: 4-Bromofluorobenzene	0.95		1.000		94.8	80	120			

Sample ID	<b>1803587-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SP-13 West Wall</b>	Batch ID:	<b>36994</b>	RunNo:	<b>49775</b>					
Prep Date:	<b>3/13/2018</b>	Analysis Date:	<b>3/14/2018</b>	SeqNo:	<b>1611209</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.92	0.093	0.9311	0	98.8	56.9	130			
Benzene	0.99	0.023	0.9311	0	106	68.5	133			
Toluene	0.99	0.047	0.9311	0	106	75	130			
Ethylbenzene	0.98	0.047	0.9311	0	105	79.4	128			
Xylenes, Total	3.0	0.093	2.793	0	108	77.3	131			
Surr: 4-Bromofluorobenzene	0.90		0.9311		96.7	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1803587

21-Mar-18

**Client:** Safety & Environmental Solutions

**Project:** Terry Billiken Release #1

Sample ID	<b>1803587-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SP-13 West Wall</b>	Batch ID:	<b>36994</b>	RunNo:	<b>49775</b>					
Prep Date:	<b>3/13/2018</b>	Analysis Date:	<b>3/14/2018</b>	SeqNo:	<b>1611210</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.95	0.097	0.9690	0	98.1	56.9	130	3.23	20	
Benzene	1.0	0.024	0.9690	0	108	68.5	133	5.68	20	
Toluene	1.0	0.048	0.9690	0	107	75	130	4.32	20	
Ethylbenzene	1.0	0.048	0.9690	0	106	79.4	128	4.66	20	
Xylenes, Total	3.2	0.097	2.907	0	109	77.3	131	4.86	20	
Surr: 4-Bromofluorobenzene	0.93		0.9690		96.4	80	120	0	0	

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

**Sample Log-In Check List**

Client Name: Safety Env Solutions

Work Order Number: 1803587

RcptNo: 1

Received By: Isaiah Ortiz 3/10/2018 9:30:00 AM

IOJ

Completed By: Isaiah Ortiz 3/12/2018 8:08:36 AM

IOJ

Reviewed By: 812C 03/13/18

Labeled By: DDS

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? Cooler

**Log In**

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

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

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_

By Whom: \_\_\_\_\_ Via:  eMail  Phone  Fax  In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

**17. Cooler Information**

Cooler No	Tamp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			

# Chain-of-Custody Record

Client: Safety + Environmental

Mailing Address: 703 E. Chilton

1406bs NW 88240

Phone #: 505-397-0510

email or Fax#:

QA/QC Package:

Standard  Level 4 (Full Validation)

Accreditation

NELAP  Other

EDD (Type)

Turn-Around Time:

Standard  Rush

Project Name: terra

Billiken Release #1

Project #: TER-17-001

Project Manager: Allen Bob

Sampler: S. S. S. S.

On Ice:  Yes  No

Sample Temperature: 7

Container Type and #

Preservative Type

HEAL No

1803587

001

002

003

004

005

006

007

008

009

010

Date

Time

Relinquished by: Sen

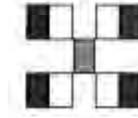
Relinquished by: June

Date: 1/24/18

Time: 0900

Date: 3/10/18

Time: 930



# HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

<input checked="" type="checkbox"/>	BTEX + MTBE + TMB's (8021)	<input checked="" type="checkbox"/>	BTEX + MTBE + TPH (Gas only)	<input checked="" type="checkbox"/>	TPH 8015B (GRO / DRO / MRO)	<input checked="" type="checkbox"/>	TPH (Method 418.1)	<input type="checkbox"/>	EDB (Method 504.1)	<input type="checkbox"/>	PAH's (8310 or 8270 SIMS)	<input type="checkbox"/>	RCRA 8 Metals	<input type="checkbox"/>	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	<input type="checkbox"/>	R081 Pesticides / R082 PCB's	<input type="checkbox"/>	8260B (VOA)	<input type="checkbox"/>	8270 (Semi-VOA)	<input checked="" type="checkbox"/>	Air Bubbles (Y or N)

Remarks:

Received by: [Signature] Date: 3/10/18 Time: 930

Received by: [Signature] Date: 3/10/18 Time: 930

# Chain-of-Custody Record

Client: *Safety & Environmental*

Mailing Address: *703 E. Clinton*

*Albuquerque, NM 88240*

Phone #: *575-390-0570*

email or Fax#:

QA/QC Package:

Standard  Level 4 (Full Validation)

Accreditation

NELAP  Other

EDD (Type)

Turn-Around Time:

Standard  Rush

Project Name: *Ferris*

*Belliken Pit area #1*

Project #: *TER-17-001*

Project Manager:

*Allen Bob*

Sampler: *Sen Jun*

On Ice:  Yes  No

Sample Temperature: *1.7*



4901 Hawkins NE - Albuquerque, NM 87109  
Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

<input checked="" type="checkbox"/>	BTEX + MTBE + TMB's (8021)	
<input checked="" type="checkbox"/>	BTEX + MTBE + TPH (Gas only)	
<input checked="" type="checkbox"/>	TPH 8015B (GRO / DRO / MRO)	
<input checked="" type="checkbox"/>	TPH (Method 418.1)	
<input checked="" type="checkbox"/>	EDB (Method 504.1)	
<input type="checkbox"/>	PAH's (8310 or 8270 SIMS)	
<input type="checkbox"/>	RCRA 8 Metals	
<input type="checkbox"/>	Anions (F, Cl, NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	
<input type="checkbox"/>	8091 Pesticides / 8082 PCB's	
<input type="checkbox"/>	8260B (VOA)	
<input type="checkbox"/>	8270 (Semi-VOA)	<i>X Chlorides (300)</i>
<input type="checkbox"/>	Air Bubbles (Y or N)	

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
<i>3/06</i>	<i>0830</i>	<i>S</i>	<i>SP-1 South Well</i>	<i>1</i>	<i>None</i>	<i>1403587-011</i>
<i>3/06</i>	<i>0845</i>	<i>S</i>	<i>SP-2 East Well</i>	<i>1</i>	<i>None</i>	<i>012</i>
<i>3/06</i>	<i>0855</i>	<i>S</i>	<i>SP-3 Ground</i>	<i>1</i>	<i>None</i>	<i>013</i>
<i>3/06</i>	<i>0905</i>	<i>S</i>	<i>SP-4 Bottom 4ft</i>	<i>1</i>	<i>None</i>	<i>014</i>
<i>3/06</i>	<i>1110</i>	<i>S</i>	<i>SP-5 Bottom 4ft</i>	<i>1</i>	<i>None</i>	<i>015</i>
<i>3/06</i>	<i>1130</i>	<i>S</i>	<i>SP-6 West Well</i>	<i>1</i>	<i>None</i>	<i>016</i>
<i>3/06</i>	<i>1145</i>	<i>S</i>	<i>SP-7 Ground</i>	<i>1</i>	<i>None</i>	<i>017</i>
<i>3/08</i>	<i>0830</i>	<i>S</i>	<i>SP-8 Bottom 4ft</i>	<i>1</i>	<i>None</i>	<i>018</i>
<i>3/08</i>	<i>0850</i>	<i>S</i>	<i>SP-9 East Well</i>	<i>1</i>	<i>None</i>	<i>019</i>
<i>3/08</i>	<i>0910</i>	<i>S</i>	<i>SP-10 Ground</i>	<i>1</i>	<i>None</i>	<i>020</i>
<i>3/08</i>	<i>0930</i>	<i>S</i>	<i>SP-11 East Well</i>	<i>1</i>	<i>None</i>	<i>021</i>
<i>3/08</i>	<i>0945</i>	<i>S</i>	<i>SP-12 East Well</i>	<i>1</i>	<i>None</i>	<i>022</i>

Remarks:

Date: <i>3/06/08</i>	Time: <i>0900</i>	Relinquished by: <i>Sen Jun</i>	Date: <i>3/10/16</i>	Time: <i>130</i>
Date:	Time:	Relinquished by:	Date:	Time:

# **Appendix D**

## **Site Photos**

**Terra Oilfield Services-Biliken Release #1**

**Photos-March 24, 2017**







# Terra Oilfield Services-Biliken Release #1

## Excavation-North Side 3-2-18











# Terra Oilfield Services-Biliken Release #1

## Excavation-South Side 3-2-18









# Terra Oilfield Services-Biliken Release #1

## Liner-South Side 3-2-18





# Terra Oilfield Services-Biliken Release #1

## Liner-North Side 3-2-18







# Terra Oilfield Services-Biliken Release #1

Project Complete 4-12-18

