2057 Commerce Drive
Midland, TX 79703

432.520.7720 PHONE
432.520.7701 FAX

www.trcsolutions.com

APPROVED
By Olivia Yu at 7:36 am, Oct 02, 2017

NMOCD approves of the delineation completed for 1RP-4569 and proposed remediation with these conditions:
1. Statement of liner integrity for the around the release point.
2. Bottom and sidewall samples for excavation areas represented by Trench 1 and Trench 2. One sample location at the border between Trench 1 and Trench 2.
3. Scaled map with the confirmation sample locations demarcated and excavated area outlined.
4. Blended soil for backfilling must be tested every 50 yd3 for BTEX, TPH, and chlorides. Use EPA Methods 8260/8021 for BTEX, 8015 for TPH extended, 300 for Chlorides.

September 6, 2017

Olivia Yu
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 1
1625 French Drive
Hobbs, NM 88240

Amber Groves
Hobbs Field Office
New Mexico State Land Office
2827 N. Dal Paso St., Suite 117
Hobbs, New Mexico 88240

Re: Soil Investigation Summary and Proposed Remediation Workplan
Merlin State Com #002H (1RP-4569)
GPS: N 32.4419975° W 103.4983597°
Unit Letter "D", Section 32, Township 21 South, Range 34 East
Lea County, New Mexico

Dear Ms. Yu and Ms. Groves,

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG) has prepared this Soil Investigation Summary and Proposed Remediation Workplan (Workplan) for the Merlin State Com #002H Release Site (Release Site). The purpose of this Workplan is to propose remediation activities designed to advance the Merlin State Com #002H Release Site toward a New Mexico Oil Conservation Division (NMOCD) approved Site Closure Status. The legal description of the Release Site is Unit Letter "D", Section 32, Township 21 South, Range 34 East, in Lea County, New Mexico. The GPS coordinates for the site are N 32.4419975° W 103.4983597°. The subject property is administered by the New Mexico State Land Office (NMSLO). A Site Location Map and Site Map are provided as Figure 1 and Figure 2, respectively.

On January 11, 2017, COG discovered a crude oil and produced water release from the gasket on a Free Water Knockout (FWKO). The release was confined to the caliche pad of the location and measured approximately 2,995 square feet in area. On January 12, 2017, a COG representative notified the NMOCD and a Release Notification and Corrective Action (Form C-141) was submitted to the NMOCD on January 13, 2017. During initial response activities, COG replaced the damaged gasket on the FWKO. Approximately one hundred twenty-five (125) barrels of fluid was released from the FWKO, with one hundred and twenty-one (121) barrels of fluid recovered. The Form C-141 is attached to this report.

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 32, Township 21 South, Range 34 East. A reference map utilized by the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office indicates groundwater should be encountered at approximately seventy-five (75) feet below ground surface (bgs). Based on the NMOCD site classification system, ten (10) points will be assigned to the subject area ranking as a result of this criterion.

No water wells were observed within one-thousand (1,000) feet of the Release Site. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

No surface water was observed within one-thousand (1,000) feet of the release. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

Based on the NMOCD Site Classification criteria, the Release Site soil remediation levels are 10 milligrams per Kilogram (mg/Kg) for benzene, 50 mg/Kg for benzene, toluene, ethylbenzene and xylenes (BTEX), and one thousand (1,000) mg/Kg for total petroleum hydrocarbons (TPH). Per NMOCD request, chloride remediation levels for the Release Site will be 600 mg/Kg.

On January 23, 2017, a Concho Representative collected eight (8) delineation soil samples (T1-Surface, T1-1', T1-1.5', T2-Surface, T2-1', T2-2.5', T2-4', and T2-5.5') from the impacted area. The soil samples were submitted to Cardinal Laboratories in Hobbs, New Mexico for determination of concentrations of BTEX using Method SW 846-8021B, TPH using Method SW 846-8015M, and chloride using Method SM 4500 Cl-B. The analytical results indicated benzene concentrations were less than the applicable laboratory Method Detection Limit (MDL) and NMOCD regulatory guidelines for the submitted soil samples, with the exception of soil sample T2-Surface, which exhibited a benzene concentration of 1.51 mg/Kg. The laboratory results indicated BTEX concentrations ranged from less than the applicable laboratory MDL for soil samples T2-1', T2-4', and T2-5.5' to 92.721 mg/Kg for soil sample T2-Surface. A review of laboratory analytical results indicated BTEX concentrations for the submitted samples were below NMOCD regulatory guidelines, with the exception of soil sample T2-Surface. The laboratory results indicated TPH concentrations ranged from 70.5 mg/Kg for soil sample T2-5.5' to 8,910 mg/Kg for soil sample T2-Surface. A review of laboratory analytical results indicated TPH concentrations were below NMOCD regulatory guidelines for the submitted soil samples, with the exception of soil samples T1-1' (1,849 mg/Kg), T1-1.5' (1,129 mg/Kg), T2-Surface (8,910), and T2-2.5' (1,119.2 mg/Kg). Chloride concentrations ranged from 32.0 mg/Kg for soil sample T2-1' to 368 mg/Kg and indicated chloride concentrations were below NMOCD regulatory guidelines. The laboratory analytical results are attached to this report.

On June 28, 2017, TRC mobilized a trackhoe to the Release Site to begin delineation activities. Nine (9) delineation soil samples (Trench-1 2', Trench-1 6', Trench-1 12', Trench-2 3', Trench-2 4', Trench-2 6', Trench-2 8', Trench-2 11', and Trench-2 14') were collected from the impacted area (see attached Figure 2 for sample locations and Table 1 for sample results) and submitted to Xenco Laboratories in Midland, Texas for determination of concentrations of BTEX using Method SW 846-8021B, TPH using Method SW 846-8015M, and/or chloride using Method E 300.0/300.1. Laboratory analytical results indicated benzene and BTEX concentrations were less than the laboratory Method Detection Limit (MDL) for the collected soil samples, with the exception of soil samples Trench-2 3', Trench-2 4', and

Trench-2 6', which exhibited BTEX concentrations of 0.1195 mg/Kg, 0.0115 mg/Kg, and 0.0233 mg/Kg, respectively. A review of laboratory analytical results indicated BTEX concentrations for the submitted soil samples were below NMOCD regulatory guidelines. Laboratory analytical results indicated TPH concentrations were less than the applicable laboratory MDL for the submitted soil samples, with the exception of soil samples Trench-1 2' (41.9 mg/kg), Trench-2 3' (2,952 mg/Kg), Trench-2 4' (1,118.1 mg/Kg), and Trench-2 6' (391.7 mg/Kg). A review of laboratory analytical results indicate TPH concentrations for the submitted soil samples were below NMOCD regulatory guidelines, with the exception of soil samples Trench-2 3' and Trench-2 4'. Chloride concentrations ranged from 61.9 mg/Kg for soil sample Trench-1 2' to 259 mg/Kg for soil sample Trench-2 11'. A review of laboratory analytical results indicated chloride concentrations were below NMOCD regulatory guidelines for the submitted soil samples.

In addition, TRC collected four (4) samples (West Trench-1 2', North Trench-1 2', East Trench-1 2', South Trench-1 2') to the west, north, east, and south of the visibly stained area to a depth of approximately two (2) feet bgs to determine the horizontal extent of the impacted area. The soil samples were submitted to Xenco Laboratories for BTEX, TPH, and chloride analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations for the submitted soil samples were below the applicable laboratory MDL, with the exception of soil samples West Trench-1 2', which exhibited a TPH concentration of 49.2 mg/Kg. Laboratory analytical results indicated chloride concentrations ranged from 29.9 mg/Kg for soil sample North Trench-1 2' to 89.5 mg/Kg for soil sample South Trench-1 2'. A review of laboratory analytical results indicated benzene, BTEX, TPH, and chloride concentrations were below NMOCD regulatory guidelines for the submitted soil samples.

In addition, one (1) background soil sample (BG-1 1') was collected approximately fifty (50) feet east of the caliche pad and submitted for BTEX, TPH, and chloride analysis. Laboratory analytical results indicated benzene and TPH concentrations were less than applicable laboratory MDL and NMOCD regulatory guidelines. Laboratory analytical results indicated BTEX concentrations were 0.0181 mg/Kg and below NMOCD regulatory guidelines. Laboratory analytical results indicated the chloride concentration was 12.1 mg/Kg and below NMOCD regulatory guidelines.

Based on the analytical results of the soil samples collected on June 28, 2017, COG proposes the following field activities designed to remediate the Merlin State Com #002H:

- Utilizing a backhoe, excavate the Release Site to a depth of approximately four and one half (4.5) feet bgs in the area represented by soil samples collected from trenches T2 and Trench-2 and to approximately one and one half (1.5) feet bgs in the area represented by soil samples collected from trenches T1 and Trench-1. The excavated soils will be stockpiled, mixed, and blended on a plastic liner adjacent to the excavation.
- Collect one (1) composite soil sample for every one hundred (100) cubic yards of excavated soil and submit for determination of concentrations of BTEX, TPH, and chloride concentrations.
- On receipt of favorable analytical results (below NMOCD regulatory guidelines), the excavation will be backfilled with the remediated soil.
- If laboratory analytical results indicate TPH, BTEX, or chloride concentrations of the excavated soil exceed NMOCD regulatory guidelines, the excavated soil will be transported under manifest to a NMOCD approved disposal facility and the excavated area will be backfilled with locally purchased non-impacted "like" soil.

- Prepare and submit a "Remediation Summary and Site Closure Request" to the NMOCD and NMSLO.

COG is prepared to begin the activities outlined in this Proposed Remediation Workplan on NMOCD and NMSLO approval.

If you have any questions, or if additional information is required, please feel free to call me at 432-520-7720 (office) or 432-664-6699 (cell).
Thank you,

Nikki Green
Project Manager
TRC Environmental Corporation

Jeffrey Kindley, PG
Senior Project Manager
TRC Environmental Corporation

Attachments:

Figure 1 - Site Location Map
Figure 2 - Site Map
Table 1 - Concentration of Chloride in Soil
Laboratory Analytical Results
Release Notification and Corrective Action (Form C-141)

cc: Rebecca Haskell
COG Operating, LLC
600 W. Illinois Avenue
Midland, Texas 79701

File

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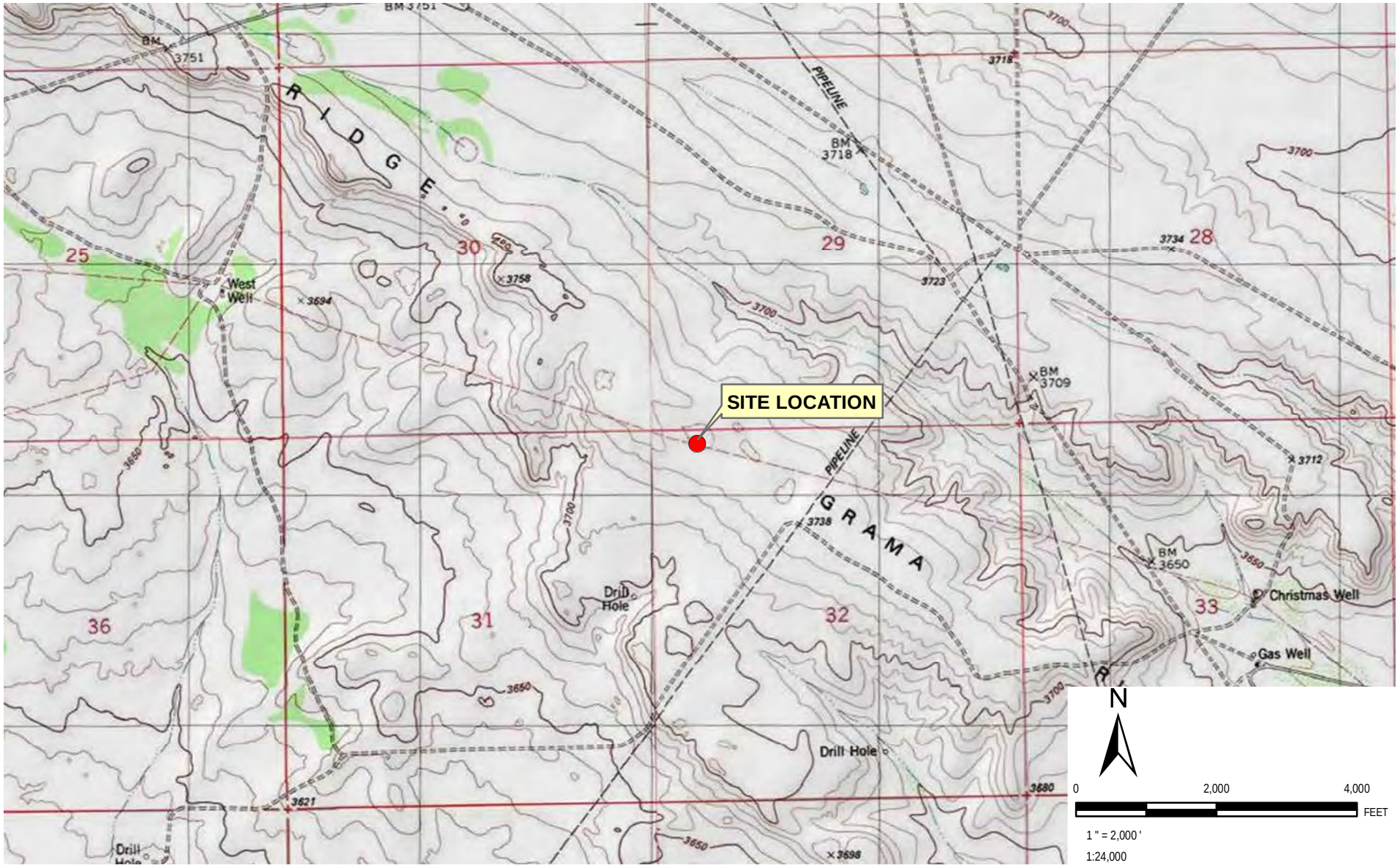

TRC

2075 Commerce Drive
Midland, TX 79703
Phone: 432.520.770

TRC - GIS

TITLE:

FIGURE 1
SITE LOCATION MAP

PROJECT:

MERLIN STATE COM #002H
LEA COUNTY, NEW MEXICO
COG OPERATING, LLC

DRAWN BY:	MLOVELACE
CHECKED BY:	NGREEN
APPROVED BY:	NGREEN
DATE:	JULY 2017
PROJ. NO.:	279781
GPS:	LAT. N 32.4419975, LONG. W 103.498597

NW1/4 NW1/4 SEC 32 T21S R34E

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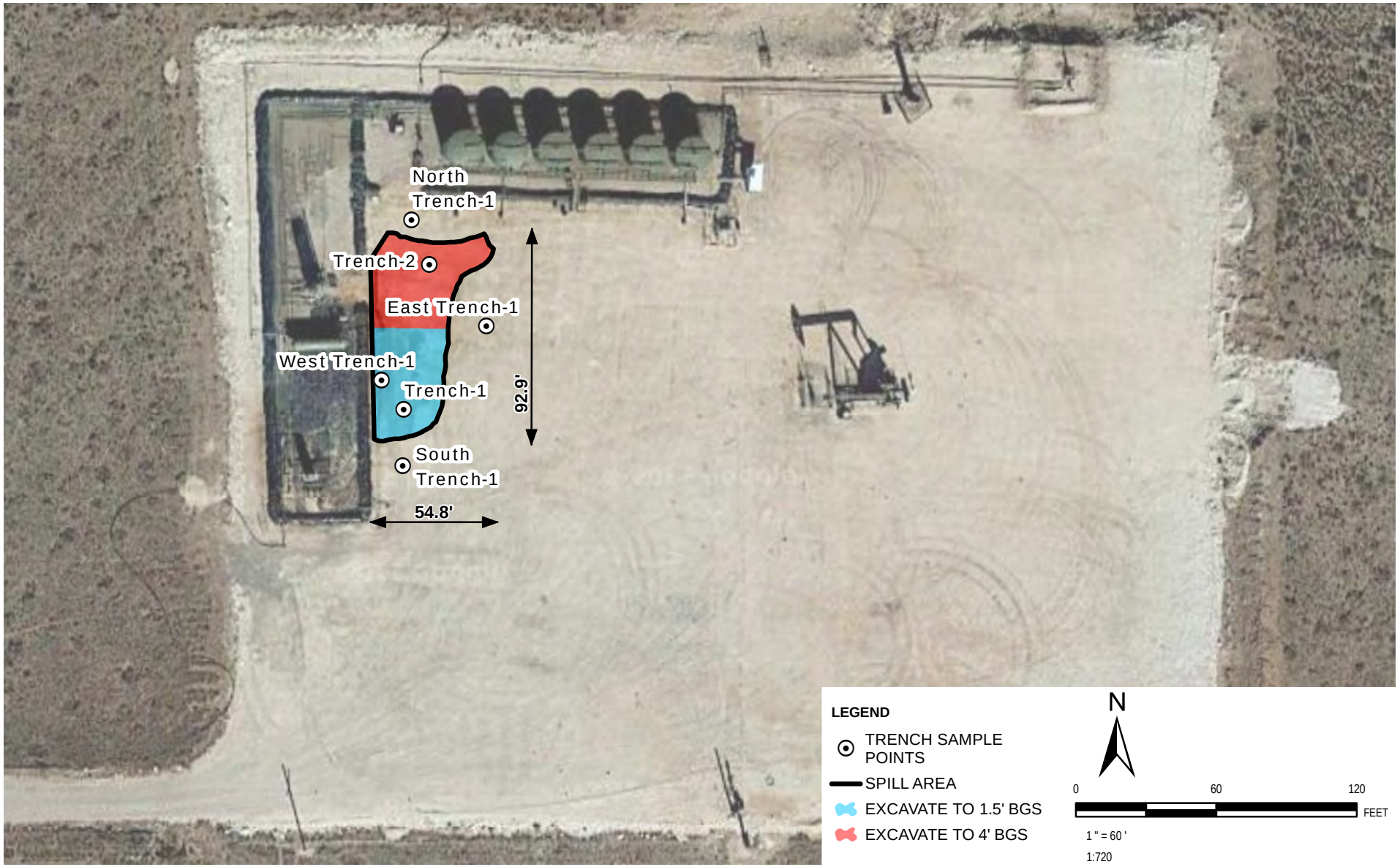

TRC

2075 Commerce Drive
Midland, TX 79703
Phone: 432.520.770

TRC - GIS

TITLE:

FIGURE 2
SITE MAP

PROJECT:

MERLIN STATE COM #002H
LEA COUNTY, NEW MEXICO
CONCHO RESOURCES

DRAWN BY:	MLOVELACE
CHECKED BY:	NGREEN
APPROVED BY:	NGREEN
DATE:	AUGUST 2017
PROJ. NO.:	279781
GPS:	LAT. N 32.4419975, LONG. W 103.498597

NW1/4 NW1/4 SEC 32 T21S R34E

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

COG Operating LLC
MERLIN STATE COM #002H
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b						METHOD: SW 8015M					EPA 300.0	SM4500Cl-B
			BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C_6-C_{10}	TPH DRO C_{10}-C_{28}	TPH ORO C_{28}-C_{35}	TOTAL TPH C_6-C_{28}	TOTAL TPH C_6-C_{35}	CHLORIDE	CHLORIDE
NMOCD Site Classification Criteria			**10**					**50**				**1,000**	**1,000**	**600**	**600**
*T1-SURFACE	01/23/17	Trench	<0.050	<0.050	0.169	0.768		0.937	32.1	354	-	386.1	-		128
*T1-1'	01/23/17	Trench	<0.100	2.73	3.73	10.5		16.96	229	1,620	-	**1,849**	-		128
*T1-1.5'	01/23/17	Trench	<0.100	0.858	1.61	4.77		7.238	129	1,000	-	**1,129**	-		112
*T2-SURFACE	01/23/17	Trench	1.51	27.6	14.8	48.8		**92.71**	1,270	7,640	-	**8,910**	-		368
*T2-1'	01/23/17	Trench	<0.050	0.050	<0.050	<0.150		0.050	<10.0	111	-	111	-		32.0
*T2-2.5'	01/23/17	Trench	<0.050	0.098	0.241	0.818		1.157	49.2	1,070	-	**1,119.2**	-		64.0
*T2-4'	01/23/17	Trench	<0.050	<0.050	<0.050	<0.150		<0.150	<10.0	35.9	-	35.9	-		144
*T2-5.5'	01/23/17	Trench	<0.050	<0.050	<0.050	<0.150		<0.150	<10.0	70.5	-	70.5	-		256
Trench-1 2'	06/28/17	Trench	<0.00198	<0.00198	<0.00198	<0.00396	<0.00198	<0.00396	<15.0	41.9	<15.0	-	41.9	61.9	-
Trench-1 6'	06/28/17	Trench	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00399	<15.0	<15.0	<15.0	-	<15.0	234	-
Trench-1 12'	06/28/17	Trench	<0.00202	<0.00202	<0.00202	<0.00403	<0.00202	<0.00403	<15.0	<15.0	<15.0	-	<15.0	86.9	-
Trench-2 3'	06/28/17	Trench	<0.00353	<0.00353	<0.00353	0.0616	0.0579	0.1195	352	2,380	220	-	**2,952**	141	-
Trench-2 4'	06/28/17	Trench	<0.00199	<0.00199	<0.00199	0.0115	<0.00199	0.0115	112	938	68.1	-	**1,118.1**	-	-
Trench-2 6'	06/28/17	Trench	<0.00202	<0.00202	<0.00202	0.0233	<0.00202	0.0233	44.3	323	24.4	-	391.7	69.5	-
Trench-2 8'	06/28/17	Trench	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<15.0	<15.0	<15.0	-	<15.0	-	-
Trench-2 11'	06/28/17	Trench	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<15.0	<15.0	<15.0	-	<15.0	259	-
Trench-2 14'	06/28/17	Trench	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00399	<15.0	<15.0	<15.0	-	<15.0	174	-
West Trench-1 2'	06/28/17	Trench	<0.00201	<0.00201	<0.00201	<0.00402	<0.00201	<0.00402	<14.9	49.2	<14.9	-	49.2	71.5	-
North Trench-1 2'	06/28/17	Trench	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<15.0	<15.0	<15.0	-	<15.0	29.9	-
East Trench-1 2'	06/28/17	Trench	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<14.9	<14.9	<14.9	-	<14.9	89.5	-
South Trench-1 2'	06/28/17	Trench	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00399	<15.0	<15.0	<15.0	-	<15.0	74.9	-

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

COG Operating LLC
MERLIN STATE COM #002H
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b						METHOD: SW 8015M					EPA 300.0	SM4500Cl-B
			BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C_6-C_{10}	TPH DRO C_{10}-C_{28}	TPH ORO C_{28}-C_{35}	TOTAL TPH C_6-C_{28}	TOTAL TPH C_6-C_{35}	CHLORIDE	CHLORIDE
NMOCD Site Classification Criteria			**10**					**50**				**1,000**	**1,000**	**600**	**600**
BG-1 1'	06/28/17	Trench	<0.00345	<0.00345	<0.00345	0.0181	<0.00345	0.0181	<15.0	<15.0	<15.0	-	<15.0	12.1	-

* - Soil sample was collected by a COG Representative and submitted to Cardinal Laboratories.

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

January 31, 2017

DAKOTA NEEL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: MERLIN STATE #2H

Enclosed are the results of analyses for samples received by the laboratory on 01/25/17 12:15.

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.

Cardinal Laboratories is accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/25/2017	Sampling Date:	01/23/2017
Reported:	01/31/2017	Sampling Type:	Soil
Project Name:	MERLIN STATE #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NOT GIVEN		

Sample ID: T1 - SURFACE (H700183-01)

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	01/30/2017	ND	1.91	95.6	2.00	0.678	
Toluene*	<0.050	0.050	01/30/2017	ND	1.92	95.9	2.00	0.381	
Ethylbenzene*	**0.169**	0.050	01/30/2017	ND	1.96	98.2	2.00	0.486	
Total Xylenes*	**0.768**	0.150	01/30/2017	ND	5.55	92.6	6.00	0.146	
Total BTEX	**0.937**	0.300	01/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	01/28/2017	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**32.1**	10.0	01/27/2017	ND	204	102	200	3.84	
DRO >C10-C28	**354**	10.0	01/27/2017	ND	215	108	200	7.32	

Surrogate: 1-Chlorooctane *102 %* *35-147*

Surrogate: 1-Chlorooctadecane *94.2 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/25/2017	Sampling Date:	01/23/2017
Reported:	01/31/2017	Sampling Type:	Soil
Project Name:	MERLIN STATE #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NOT GIVEN		

Sample ID: T1 - 1' (H700183-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	01/30/2017	ND	1.91	95.6	2.00	0.678	
Toluene*	**2.73**	0.100	01/30/2017	ND	1.92	95.9	2.00	0.381	
Ethylbenzene*	**3.73**	0.100	01/30/2017	ND	1.96	98.2	2.00	0.486	
Total Xylenes*	**10.5**	0.300	01/30/2017	ND	5.55	92.6	6.00	0.146	
Total BTEX	**16.9**	0.600	01/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *128 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	01/28/2017	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**229**	10.0	01/27/2017	ND	204	102	200	3.84	
DRO >C10-C28	**1620**	10.0	01/27/2017	ND	215	108	200	7.32	

Surrogate: 1-Chlorooctane *107 %* *35-147*

Surrogate: 1-Chlorooctadecane *100 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/25/2017	Sampling Date:	01/23/2017
Reported:	01/31/2017	Sampling Type:	Soil
Project Name:	MERLIN STATE #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NOT GIVEN		

Sample ID: T1 - 1.5' (H700183-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	01/30/2017	ND	1.91	95.6	2.00	0.678	
Toluene*	**0.858**	0.100	01/30/2017	ND	1.92	95.9	2.00	0.381	
Ethylbenzene*	**1.61**	0.100	01/30/2017	ND	1.96	98.2	2.00	0.486	
Total Xylenes*	**4.77**	0.300	01/30/2017	ND	5.55	92.6	6.00	0.146	
Total BTEX	**7.24**	0.600	01/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *114 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	01/28/2017	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**129**	10.0	01/27/2017	ND	204	102	200	3.84	
DRO >C10-C28	**1000**	10.0	01/27/2017	ND	215	108	200	7.32	

Surrogate: 1-Chlorooctane *113 %* *35-147*

Surrogate: 1-Chlorooctadecane *110 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/25/2017	Sampling Date:	01/23/2017
Reported:	01/31/2017	Sampling Type:	Soil
Project Name:	MERLIN STATE #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NOT GIVEN		

Sample ID: T2 - SURFACE (H700183-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**1.51**	1.00	01/30/2017	ND	1.91	95.6	2.00	0.678	
Toluene*	**27.6**	1.00	01/30/2017	ND	1.92	95.9	2.00	0.381	
Ethylbenzene*	**14.8**	1.00	01/30/2017	ND	1.96	98.2	2.00	0.486	
Total Xylenes*	**48.8**	3.00	01/30/2017	ND	5.55	92.6	6.00	0.146	
Total BTEX	**92.7**	6.00	01/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *111 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**368**	16.0	01/28/2017	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**1270**	50.0	01/27/2017	ND	204	102	200	3.84	
DRO >C10-C28	**7640**	50.0	01/27/2017	ND	215	108	200	7.32	

Surrogate: 1-Chlorooctane *289 %* *35-147*

Surrogate: 1-Chlorooctadecane *194 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/25/2017	Sampling Date:	01/23/2017
Reported:	01/31/2017	Sampling Type:	Soil
Project Name:	MERLIN STATE #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NOT GIVEN		

Sample ID: T2 - 1' (H700183-05)

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	01/30/2017	ND	1.91	95.6	2.00	0.678	
Toluene*	**0.050**	0.050	01/30/2017	ND	1.92	95.9	2.00	0.381	
Ethylbenzene*	<0.050	0.050	01/30/2017	ND	1.96	98.2	2.00	0.486	
Total Xylenes*	<0.150	0.150	01/30/2017	ND	5.55	92.6	6.00	0.146	
Total BTEX	<0.300	0.300	01/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	01/28/2017	ND	432	108	400	3.77	

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	01/27/2017	ND	204	102	200	3.84	
DRO >C10-C28	**111**	10.0	01/27/2017	ND	215	108	200	7.32	

Surrogate: 1-Chlorooctane *96.7 %* *35-147*

Surrogate: 1-Chlorooctadecane *99.5 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/25/2017	Sampling Date:	01/23/2017
Reported:	01/31/2017	Sampling Type:	Soil
Project Name:	MERLIN STATE #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NOT GIVEN		

Sample ID: T2 - 2.5' (H700183-06)

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	01/30/2017	ND	1.91	95.6	2.00	0.678	
Toluene*	**0.098**	0.050	01/30/2017	ND	1.92	95.9	2.00	0.381	
Ethylbenzene*	**0.241**	0.050	01/30/2017	ND	1.96	98.2	2.00	0.486	
Total Xylenes*	**0.818**	0.150	01/30/2017	ND	5.55	92.6	6.00	0.146	
Total BTEX	**1.16**	0.300	01/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *111 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/28/2017	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**49.2**	10.0	01/27/2017	ND	204	102	200	3.84	
DRO >C10-C28	**1070**	10.0	01/27/2017	ND	215	108	200	7.32	

Surrogate: 1-Chlorooctane *104 %* *35-147*

Surrogate: 1-Chlorooctadecane *106 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/25/2017	Sampling Date:	01/23/2017
Reported:	01/31/2017	Sampling Type:	Soil
Project Name:	MERLIN STATE #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NOT GIVEN		

Sample ID: T2 - 4' (H700183-07)

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	01/30/2017	ND	1.91	95.6	2.00	0.678	
Toluene*	<0.050	0.050	01/30/2017	ND	1.92	95.9	2.00	0.381	
Ethylbenzene*	<0.050	0.050	01/30/2017	ND	1.96	98.2	2.00	0.486	
Total Xylenes*	<0.150	0.150	01/30/2017	ND	5.55	92.6	6.00	0.146	
Total BTEX	<0.300	0.300	01/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	01/28/2017	ND	432	108	400	3.77	

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	01/27/2017	ND	204	102	200	3.84	
DRO >C10-C28	**35.9**	10.0	01/27/2017	ND	215	108	200	7.32	

Surrogate: 1-Chlorooctane *95.8 %* *35-147*

Surrogate: 1-Chlorooctadecane *92.0 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	01/25/2017	Sampling Date:	01/23/2017
Reported:	01/31/2017	Sampling Type:	Soil
Project Name:	MERLIN STATE #2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NOT GIVEN		

Sample ID: T2 - 5.5' (H700183-08)

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	01/30/2017	ND	1.91	95.6	2.00	0.678	
Toluene*	<0.050	0.050	01/30/2017	ND	1.92	95.9	2.00	0.381	
Ethylbenzene*	<0.050	0.050	01/30/2017	ND	1.96	98.2	2.00	0.486	
Total Xylenes*	<0.150	0.150	01/30/2017	ND	5.55	92.6	6.00	0.146	
Total BTEX	<0.300	0.300	01/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	01/28/2017	ND	432	108	400	3.77	

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	01/27/2017	ND	204	102	200	3.84	
DRO >C10-C28	**70.5**	10.0	01/27/2017	ND	215	108	200	7.32	

Surrogate: 1-Chlorooctane *96.7 %* *35-147*

Surrogate: 1-Chlorooctadecane *94.8 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
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 LCSD 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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	COG Operating LLC	**BILL TO**	
Project Manager:	Dakota Neel	**P.O. #:**	
Address:	2208 West Main	**Company:**	COG Operating LLC
City:	Artesia **State:** NM **Zip** 88210	**Attn:**	Robert McNeill
Phone #:	432-215-2783 **Fax #:**	**Address:**	600 W Illinois
Project #:	**Project Owner:**	**City:**	Midland
Project Name:	Merlin State #2H	**State:** TX **Zip:** 79701	
Project Location:		**Phone #:**	(432) 221-0388
Sampler Name:		**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	BTEX	TPH	Chloride										
H700183-																										
01	T1- Surface												1/23/17	11:00 AM	x	x	X									
02	T1- 1'												1/23/17	11:00 AM	x	x	X									
03	T1- 1.5'												1/23/17	11:00 AM	x	x	X									
04	T2-Surface												1/23/17	11:00 AM	x	x	X									
05	T2- 1'												1/23/17	11:00 AM	x	x	X									
06	T2- 2.5'												1/23/17	11:00 AM	x	x	X									
07	T2- 4'												1/23/17	11:00 AM	x	x	X									
08	T2- 5.5'												1/23/17	11:00 AM	x	x	X									

Relinquished By:	**Date:** 1-25-17	**Received By:**	
	Time: 12:15		
Relinquished By:	**Date:**	**Received By:**	
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 4.6°C

Sample Condition		CHECKED BY: (Initials)
Cool	Intact	
☑ Yes	☑ Yes	ck #75
☐ No	☐ No	

Phone Result: ☐ Yes ☐ No **Add'l Phone #:**
Fax Result: ☐ Yes ☐ No **Add'l Fax #:**
REMARKS:

dneel2@concho.com

FORM-006 R 2.0

s. Please fax written changes to 575-393-2476

Certificate of Analysis Summary 556810

TRC Solutions, Inc, Midland, TX

Project Name: Merlin State Com #002H (1/11/17)

Project Id:
Contact: Nikki Green
Project Location: Lea Co NM

Date Received in Lab: Mon Jul-03-17 11:55 am
Report Date: 11-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	556810-001		556810-002		556810-003		556810-004		556810-005		556810-006	
	Field Id:	Trench-1 2'		Trench-1 6'		Trench-1 12'		Trench-2 3'		Trench-2 4'		Trench-2 6'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-28-17 12:25		Jun-28-17 13:20		Jun-28-17 14:45		Jun-28-17 14:50		Jun-28-17 15:30		Jun-28-17 15:45	
BTEX by EPA 8021B	***Extracted:***	Jul-06-17 15:00		Jul-06-17 15:00		Jul-06-17 15:00		Jul-10-17 18:00		Jul-06-17 15:00		Jul-07-17 08:30	
	Analyzed:	Jul-07-17 03:29		Jul-07-17 03:45		Jul-07-17 04:01		Jul-11-17 09:36		Jul-07-17 04:17		Jul-07-17 14:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00353	0.00353	<0.00199	0.00199	<0.00202	0.00202
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00353	0.00353	<0.00199	0.00199	<0.00202	0.00202
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	<0.00353	0.00353	<0.00199	0.00199	<0.00202	0.00202
m,p-Xylenes		<0.00396	0.00396	<0.00399	0.00399	<0.00403	0.00403	0.0616	0.00707	0.0115	0.00398	0.0233	0.00403
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	0.0579	0.00353	<0.00199	0.00199	<0.00202	0.00202
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	0.120	0.00353	0.0115	0.00199	0.0233	0.00202
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00202	0.00202	0.120	0.00353	0.0115	0.00199	0.0233	0.00202
Chloride by EPA 300	***Extracted:***	Jul-07-17 16:30		Jul-07-17 16:30		Jul-07-17 16:30		Jul-07-17 17:10				Jul-07-17 17:10	
	Analyzed:	Jul-07-17 23:06		Jul-07-17 23:13		Jul-07-17 23:21		Jul-08-17 00:07				Jul-08-17 00:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL			mg/kg	RL
Chloride		61.9	4.96	234	4.94	86.9	4.97	141	4.91			69.5	4.96
TPH by SW8015 Mod	***Extracted:***	Jul-04-17 10:00		Jul-04-17 10:00		Jul-04-17 10:00		Jul-04-17 10:00		Jul-04-17 10:00		Jul-06-17 11:00	
	Analyzed:	Jul-05-17 01:36		Jul-05-17 01:57		Jul-05-17 02:18		Jul-05-17 03:23		Jul-05-17 03:44		Jul-06-17 14:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	352	15.0	112	15.0	44.3	15.0
Diesel Range Organics (DRO)		41.9	15.0	<15.0	15.0	<15.0	15.0	2380	15.0	938	15.0	323	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	220	15.0	68.1	15.0	24.4	15.0
Total TPH		41.9	15.0	<15.0	15.0	<15.0	15.0	2950	15.0	1120	15.0	392	15.0

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 556810

TRC Solutions, Inc, Midland, TX

Project Name: Merlin State Com #002H (1/11/17)

Project Id:
Contact: Nikki Green
Project Location: Lea Co NM

Date Received in Lab: Mon Jul-03-17 11:55 am
Report Date: 11-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	556810-007		556810-008		556810-009		556810-010		556810-011		556810-012	
	Field Id:	Trench-2 8'		Trench-2 11'		Trench-2 14'		West Trench-1 2'		North Trench-1 2'		East Trench-1 2'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-28-17 15:50		Jun-28-17 15:55		Jun-28-17 16:07		Jun-28-17 12:45		Jun-28-17 16:20		Jun-28-17 16:38	
BTEX by EPA 8021B	***Extracted:***	Jul-07-17 08:30		Jul-07-17 08:30		Jul-07-17 08:30		Jul-06-17 15:00		Jul-07-17 08:30		Jul-07-17 08:30	
	Analyzed:	Jul-07-17 13:29		Jul-07-17 14:17		Jul-07-17 14:34		Jul-07-17 04:33		Jul-07-17 11:52		Jul-07-17 10:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		<0.00398	0.00398	<0.00401	0.00401	<0.00399	0.00399	<0.00402	0.00402	<0.00401	0.00401	<0.00398	0.00398
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***			Jul-07-17 17:10		Jul-07-17 17:10		Jul-07-17 17:10		Jul-07-17 17:10		Jul-07-17 17:10	
	Analyzed:			Jul-08-17 00:38		Jul-08-17 00:45		Jul-08-17 00:53		Jul-08-17 01:16		Jul-08-17 01:24	
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride				259	4.95	174	4.97	71.5	4.97	29.9	4.98	89.5	4.91
TPH by SW8015 Mod	***Extracted:***	Jul-06-17 11:00		Jul-06-17 11:00		Jul-06-17 11:00		Jul-04-17 10:00		Jul-04-17 10:00		Jul-04-17 10:00	
	Analyzed:	Jul-06-17 15:31		Jul-06-17 15:52		Jul-06-17 16:12		Jul-05-17 04:05		Jul-05-17 04:27		Jul-05-17 04:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	49.2	14.9	<15.0	15.0	<14.9	14.9
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	49.2	14.9	<15.0	15.0	<14.9	14.9

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 556810

TRC Solutions, Inc, Midland, TX

Project Name: Merlin State Com #002H (1/11/17)

Project Id:
Contact: Nikki Green
Project Location: Lea Co NM

Date Received in Lab: Mon Jul-03-17 11:55 am
Report Date: 11-JUL-17
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	556810-013					
	Field Id:	South Trench-1 2'					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Jun-28-17 16:45					
BTEX by EPA 8021B	***Extracted:***	Jul-07-17 08:30					
	Analyzed:	Jul-07-17 12:08					
	Units/RL:	mg/kg	RL				
Benzene		<0.00200	0.00200				
Toluene		<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200				
m,p-Xylenes		<0.00399	0.00399				
o-Xylene		<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200				
Total BTEX		<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	Jul-07-17 17:10					
	Analyzed:	Jul-08-17 01:32					
	Units/RL:	mg/kg	RL				
Chloride		74.9	4.99				
TPH by SW8015 Mod	***Extracted:***	Jul-04-17 10:00					
	Analyzed:	Jul-05-17 05:10					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0				
Oil Range Hydrocarbons (ORO)		<15.0	15.0				
Total TPH		<15.0	15.0				

Analytical Report 556810

for

TRC Solutions, Inc

Project Manager: Nikki Green

Merlin State Com #002H (1/11/17)

11-JUL-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

11-JUL-17

Project Manager: **Nikki Green**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **556810**
Merlin State Com #002H (1/11/17)
Project Address: Lea Co NM

Nikki Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 556810. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 556810 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Mike Kimmel
Client Services Manager

Sample Cross Reference 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Trench-1 2'	S	06-28-17 12:25		556810-001
Trench-1 6'	S	06-28-17 13:20		556810-002
Trench-1 12'	S	06-28-17 14:45		556810-003
Trench-2 3'	S	06-28-17 14:50		556810-004
Trench-2 4'	S	06-28-17 15:30		556810-005
Trench-2 6'	S	06-28-17 15:45		556810-006
Trench-2 8'	S	06-28-17 15:50		556810-007
Trench-2 11'	S	06-28-17 15:55		556810-008
Trench-2 14'	S	06-28-17 16:07		556810-009
West Trench-1 2'	S	06-28-17 12:45		556810-010
North Trench-1 2'	S	06-28-17 16:20		556810-011
East Trench-1 2'	S	06-28-17 16:38		556810-012
South Trench-1 2'	S	06-28-17 16:45		556810-013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3021700 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3021705 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3021784 Inorganic Anions by EPA 300
Lab Sample ID 556810-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 556810-004, -006, -008, -009, -010, -011, -012, -013. The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3021965 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-1 2'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-001	Date Collected:	06.28.17 12.25		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 16.30	Basis:	Wet Weight
Seq Number:	3021783				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**61.9**	4.96	mg/kg	07.07.17 23.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.04.17 10.00	Basis:	Wet Weight
Seq Number:	3021777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.05.17 01.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	**41.9**	15.0	mg/kg	07.05.17 01.36		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.05.17 01.36	U	1
Total TPH	PHC635	**41.9**	15.0	mg/kg	07.05.17 01.36		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	07.05.17 01.36	
o-Terphenyl	84-15-1	107	%	70-135	07.05.17 01.36	

Certificate of Analytical Results 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-1 2'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-001	Date Collected:	06.28.17 12.25		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.06.17 15.00	Basis:	Wet Weight
Seq Number:	3021700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.07.17 03.29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.07.17 03.29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.07.17 03.29	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	07.07.17 03.29	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.07.17 03.29	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.07.17 03.29	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.07.17 03.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	80-120	07.07.17 03.29	
1,4-Difluorobenzene	540-36-3	101	%	80-120	07.07.17 03.29	

Certificate of Analytical Results 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-1 6'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-002	Date Collected:	06.28.17 13.20		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 16.30	Basis:	Wet Weight
Seq Number:	3021783				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**234**	4.94	mg/kg	07.07.17 23.13		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.04.17 10.00	Basis:	Wet Weight
Seq Number:	3021777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.05.17 01.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.05.17 01.57	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.05.17 01.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.05.17 01.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	07.05.17 01.57	
o-Terphenyl	84-15-1	111	%	70-135	07.05.17 01.57	

Certificate of Analytical Results 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-1 6'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-002	Date Collected:	06.28.17 13.20		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.06.17 15.00	Basis:	Wet Weight
Seq Number:	3021700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.07.17 03.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.07.17 03.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.07.17 03.45	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.07.17 03.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.07.17 03.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.07.17 03.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.07.17 03.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	80-120	07.07.17 03.45	
1,4-Difluorobenzene	540-36-3	96	%	80-120	07.07.17 03.45	

Certificate of Analytical Results 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-1 12'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-003	Date Collected:	06.28.17 14.45		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 16.30	Basis:	Wet Weight
Seq Number:	3021783				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**86.9**	4.97	mg/kg	07.07.17 23.21		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.04.17 10.00	Basis:	Wet Weight
Seq Number:	3021777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.05.17 02.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.05.17 02.18	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.05.17 02.18	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.05.17 02.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.05.17 02.18	
o-Terphenyl	84-15-1	93	%	70-135	07.05.17 02.18	

Certificate of Analytical Results 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-1 12'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-003	Date Collected:	06.28.17 14.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.06.17 15.00	Basis:	Wet Weight
Seq Number:	3021700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.07.17 04.01	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.07.17 04.01	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.07.17 04.01	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.07.17 04.01	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.07.17 04.01	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.07.17 04.01	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.07.17 04.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	80-120	07.07.17 04.01	
4-Bromofluorobenzene	460-00-4	101	%	80-120	07.07.17 04.01	

Certificate of Analytical Results 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-2 3'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-004	Date Collected:	06.28.17 14.50		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 17.10	Basis:	Wet Weight
Seq Number:	3021784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**141**	4.91	mg/kg	07.08.17 00.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.04.17 10.00	Basis:	Wet Weight
Seq Number:	3021777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**352**	15.0	mg/kg	07.05.17 03.23		1
Diesel Range Organics (DRO)	C10C28DRO	**2380**	15.0	mg/kg	07.05.17 03.23		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**220**	15.0	mg/kg	07.05.17 03.23		1
Total TPH	PHC635	**2950**	15.0	mg/kg	07.05.17 03.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	07.05.17 03.23	
o-Terphenyl	84-15-1	90	%	70-135	07.05.17 03.23	

Certificate of Analytical Results 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-2 3'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-004	Date Collected:	06.28.17 14.50		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.10.17 18.00	Basis:	Wet Weight
Seq Number:	3021965				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00353	0.00353	mg/kg	07.11.17 09.36	U	1
Toluene	108-88-3	<0.00353	0.00353	mg/kg	07.11.17 09.36	U	1
Ethylbenzene	100-41-4	<0.00353	0.00353	mg/kg	07.11.17 09.36	U	1
m,p-Xylenes	179601-23-1	**0.0616**	0.00707	mg/kg	07.11.17 09.36		1
o-Xylene	95-47-6	**0.0579**	0.00353	mg/kg	07.11.17 09.36		1
Total Xylenes	1330-20-7	**0.120**	0.00353	mg/kg	07.11.17 09.36		1
Total BTEX		**0.120**	0.00353	mg/kg	07.11.17 09.36		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	80-120	07.11.17 09.36	
1,4-Difluorobenzene	540-36-3	83	%	80-120	07.11.17 09.36	

Certificate of Analytical Results 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-2 4'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-005	Date Collected:	06.28.17 15.30		

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.04.17 10.00	Basis:	Wet Weight
Seq Number:	3021777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**112**	15.0	mg/kg	07.05.17 03.44		1
Diesel Range Organics (DRO)	C10C28DRO	**938**	15.0	mg/kg	07.05.17 03.44		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**68.1**	15.0	mg/kg	07.05.17 03.44		1
Total TPH	PHC635	**1120**	15.0	mg/kg	07.05.17 03.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	07.05.17 03.44	
o-Terphenyl	84-15-1	101	%	70-135	07.05.17 03.44	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.06.17 15.00	Basis:	Wet Weight
Seq Number:	3021700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.07.17 04.17	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.07.17 04.17	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.07.17 04.17	U	1
m,p-Xylenes	179601-23-1	**0.0115**	0.00398	mg/kg	07.07.17 04.17		1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.07.17 04.17	U	1
Total Xylenes	1330-20-7	**0.0115**	0.00199	mg/kg	07.07.17 04.17		1
Total BTEX		**0.0115**	0.00199	mg/kg	07.07.17 04.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	80-120	07.07.17 04.17	
4-Bromofluorobenzene	460-00-4	110	%	80-120	07.07.17 04.17	

Certificate of Analytical Results 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-2 6'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-006	Date Collected:	06.28.17 15.45		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 17.10	Basis:	Wet Weight
Seq Number:	3021784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**69.5**	4.96	mg/kg	07.08.17 00.30		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.06.17 11.00	Basis:	Wet Weight
Seq Number:	3021792				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**44.3**	15.0	mg/kg	07.06.17 14.30		1
Diesel Range Organics (DRO)	C10C28DRO	**323**	15.0	mg/kg	07.06.17 14.30		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**24.4**	15.0	mg/kg	07.06.17 14.30		1
Total TPH	PHC635	**392**	15.0	mg/kg	07.06.17 14.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	07.06.17 14.30	
o-Terphenyl	84-15-1	109	%	70-135	07.06.17 14.30	

Certificate of Analytical Results 556810

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-2 6'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-006	Date Collected:	06.28.17 15.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.07.17 08.30	Basis:	Wet Weight
Seq Number:	3021705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.07.17 14.50	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.07.17 14.50	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.07.17 14.50	U	1
m,p-Xylenes	179601-23-1	**0.0233**	0.00403	mg/kg	07.07.17 14.50		1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.07.17 14.50	U	1
Total Xylenes	1330-20-7	**0.0233**	0.00202	mg/kg	07.07.17 14.50		1
Total BTEX		**0.0233**	0.00202	mg/kg	07.07.17 14.50		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	80-120	07.07.17 14.50	
4-Bromofluorobenzene	460-00-4	117	%	80-120	07.07.17 14.50	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-2 8'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-007	Date Collected:	06.28.17 15.50		

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.06.17 11.00	Basis:	Wet Weight
Seq Number:	3021792				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.17 15.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.06.17 15.31	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.06.17 15.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.06.17 15.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	07.06.17 15.31	
o-Terphenyl	84-15-1	120	%	70-135	07.06.17 15.31	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.07.17 08.30	Basis:	Wet Weight
Seq Number:	3021705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.07.17 13.29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.07.17 13.29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.07.17 13.29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.07.17 13.29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.07.17 13.29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.07.17 13.29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.07.17 13.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	80-120	07.07.17 13.29	
1,4-Difluorobenzene	540-36-3	93	%	80-120	07.07.17 13.29	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-2 11'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-008	Date Collected:	06.28.17 15.55		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 17.10	Basis:	Wet Weight
Seq Number:	3021784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**259**	4.95	mg/kg	07.08.17 00.38		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.06.17 11.00	Basis:	Wet Weight
Seq Number:	3021792				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.17 15.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.06.17 15.52	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.06.17 15.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.06.17 15.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	07.06.17 15.52	
o-Terphenyl	84-15-1	116	%	70-135	07.06.17 15.52	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-2 11'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-008	Date Collected:	06.28.17 15.55		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.07.17 08.30	Basis:	Wet Weight
Seq Number:	3021705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.07.17 14.17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.07.17 14.17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.07.17 14.17	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.07.17 14.17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.07.17 14.17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.07.17 14.17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.07.17 14.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	80-120	07.07.17 14.17	
1,4-Difluorobenzene	540-36-3	107	%	80-120	07.07.17 14.17	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-2 14'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-009	Date Collected:	06.28.17 16.07		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 17.10	Basis:	Wet Weight
Seq Number:	3021784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**174**	4.97	mg/kg	07.08.17 00.45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.06.17 11.00	Basis:	Wet Weight
Seq Number:	3021792				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.17 16.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.06.17 16.12	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.06.17 16.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.06.17 16.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	07.06.17 16.12	
o-Terphenyl	84-15-1	111	%	70-135	07.06.17 16.12	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**Trench-2 14'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-009	Date Collected:	06.28.17 16.07		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.07.17 08.30	Basis:	Wet Weight
Seq Number:	3021705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.07.17 14.34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.07.17 14.34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.07.17 14.34	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.07.17 14.34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.07.17 14.34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.07.17 14.34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.07.17 14.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	80-120	07.07.17 14.34	
1,4-Difluorobenzene	540-36-3	101	%	80-120	07.07.17 14.34	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**West Trench-1 2'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-010	Date Collected:	06.28.17 12.45		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 17.10	Basis:	Wet Weight
Seq Number:	3021784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**71.5**	4.97	mg/kg	07.08.17 00.53		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.04.17 10.00	Basis:	Wet Weight
Seq Number:	3021777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.05.17 04.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	**49.2**	14.9	mg/kg	07.05.17 04.05		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	07.05.17 04.05	U	1
Total TPH	PHC635	**49.2**	14.9	mg/kg	07.05.17 04.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	07.05.17 04.05	
o-Terphenyl	84-15-1	107	%	70-135	07.05.17 04.05	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**West Trench-1 2'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-010	Date Collected:	06.28.17 12.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.06.17 15.00	Basis:	Wet Weight
Seq Number:	3021700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.07.17 04.33	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.07.17 04.33	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.07.17 04.33	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.07.17 04.33	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.07.17 04.33	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.07.17 04.33	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.07.17 04.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	80-120	07.07.17 04.33	
1,4-Difluorobenzene	540-36-3	98	%	80-120	07.07.17 04.33	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**North Trench-1 2'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-011	Date Collected:	06.28.17 16.20		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 17.10	Basis:	Wet Weight
Seq Number:	3021784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.9**	4.98	mg/kg	07.08.17 01.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.04.17 10.00	Basis:	Wet Weight
Seq Number:	3021777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.05.17 04.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.05.17 04.27	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.05.17 04.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.05.17 04.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	07.05.17 04.27	
o-Terphenyl	84-15-1	106	%	70-135	07.05.17 04.27	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**North Trench-1 2'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-011	Date Collected:	06.28.17 16.20		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.07.17 08.30	Basis:	Wet Weight
Seq Number:	3021705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.07.17 11.52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.07.17 11.52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.07.17 11.52	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.07.17 11.52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.07.17 11.52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.07.17 11.52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.07.17 11.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	80-120	07.07.17 11.52	
1,4-Difluorobenzene	540-36-3	102	%	80-120	07.07.17 11.52	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**East Trench-1 2'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-012	Date Collected:	06.28.17 16.38		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 17.10	Basis:	Wet Weight
Seq Number:	3021784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**89.5**	4.91	mg/kg	07.08.17 01.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.04.17 10.00	Basis:	Wet Weight
Seq Number:	3021777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.05.17 04.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.05.17 04.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	07.05.17 04.49	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.05.17 04.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	07.05.17 04.49	
o-Terphenyl	84-15-1	104	%	70-135	07.05.17 04.49	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**East Trench-1 2'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-012	Date Collected:	06.28.17 16.38		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.07.17 08.30	Basis:	Wet Weight
Seq Number:	3021705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.07.17 10.27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.07.17 10.27	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.07.17 10.27	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.07.17 10.27	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.07.17 10.27	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.07.17 10.27	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.07.17 10.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	80-120	07.07.17 10.27	
4-Bromofluorobenzene	460-00-4	102	%	80-120	07.07.17 10.27	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**South Trench-1 2'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-013	Date Collected:	06.28.17 16.45		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 17.10	Basis:	Wet Weight
Seq Number:	3021784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**74.9**	4.99	mg/kg	07.08.17 01.32		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.04.17 10.00	Basis:	Wet Weight
Seq Number:	3021777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.05.17 05.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.05.17 05.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.05.17 05.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.05.17 05.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	07.05.17 05.10	
o-Terphenyl	84-15-1	107	%	70-135	07.05.17 05.10	

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TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**South Trench-1 2'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556810-013	Date Collected:	06.28.17 16.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.07.17 08.30	Basis:	Wet Weight
Seq Number:	3021705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.07.17 12.08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.07.17 12.08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.07.17 12.08	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.07.17 12.08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.07.17 12.08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.07.17 12.08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.07.17 12.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	80-120	07.07.17 12.08	
1,4-Difluorobenzene	540-36-3	99	%	80-120	07.07.17 12.08	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

QC Summary 556810

TRC Solutions, Inc

Merlin State Com #002H (1/11/17)

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3021783 Matrix: Solid Date Prep: 07.07.17
MB Sample Id: 727344-1-BLK LCS Sample Id: 727344-1-BKS LCSD Sample Id: 727344-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	254	102	259	104	90-110	2	20	mg/kg	07.07.17 19:38	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3021784 Matrix: Solid Date Prep: 07.07.17
MB Sample Id: 727342-1-BLK LCS Sample Id: 727342-1-BKS LCSD Sample Id: 727342-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	265	106	268	107	90-110	1	20	mg/kg	07.07.17 23:52	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3021783 Matrix: Soil Date Prep: 07.07.17
Parent Sample Id: 556808-001 MS Sample Id: 556808-001 S MSD Sample Id: 556808-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.8	246	251	96	262	101	90-110	4	20	mg/kg	07.07.17 20:01	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3021783 Matrix: Soil Date Prep: 07.07.17
Parent Sample Id: 556808-017 MS Sample Id: 556808-017 S MSD Sample Id: 556808-017 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	155	246	404	101	372	88	90-110	8	20	mg/kg	07.07.17 21:49	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3021784 Matrix: Soil Date Prep: 07.07.17
Parent Sample Id: 556810-004 MS Sample Id: 556810-004 S MSD Sample Id: 556810-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	141	246	411	110	451	126	90-110	9	20	mg/kg	07.08.17 00:15	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3021784 Matrix: Soil Date Prep: 07.07.17
Parent Sample Id: 556930-002 MS Sample Id: 556930-002 S MSD Sample Id: 556930-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	380	248	638	104	596	87	90-110	7	20	mg/kg	07.08.17 02:02	X

QC Summary 556810

TRC Solutions, Inc

Merlin State Com #002H (1/11/17)

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3021777 Matrix: Solid Date Prep: 07.04.17
MB Sample Id: 727236-1-BLK LCS Sample Id: 727236-1-BKS LCSD Sample Id: 727236-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	983	98	993	99	70-135	1	35	mg/kg	07.04.17 21:40	
Diesel Range Organics (DRO)	<15.0	1000	1010	101	963	96	70-135	5	35	mg/kg	07.04.17 21:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		100		102		70-135	%	07.04.17 21:40
o-Terphenyl	117		98		102		70-135	%	07.04.17 21:40

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3021792 Matrix: Solid Date Prep: 07.06.17
MB Sample Id: 727359-1-BLK LCS Sample Id: 727359-1-BKS LCSD Sample Id: 727359-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1030	103	1040	104	70-135	1	35	mg/kg	07.06.17 13:50	
Diesel Range Organics (DRO)	<15.0	1000	1030	103	1060	106	70-135	3	35	mg/kg	07.06.17 13:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		128		120		70-135	%	07.06.17 13:50
o-Terphenyl	124		128		119		70-135	%	07.06.17 13:50

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3021777 Matrix: Soil Date Prep: 07.04.17
Parent Sample Id: 556808-021 MS Sample Id: 556808-021 S MSD Sample Id: 556808-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	317	998	1420	111	1360	104	70-135	4	35	mg/kg	07.04.17 22:45	
Diesel Range Organics (DRO)	1200	998	2350	115	2210	101	70-135	6	35	mg/kg	07.04.17 22:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		104		70-135	%	07.04.17 22:45
o-Terphenyl	97		87		70-135	%	07.04.17 22:45

QC Summary 556810

TRC Solutions, Inc

Merlin State Com #002H (1/11/17)

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3021792 | Matrix: Soil | Date Prep: 07.06.17
Parent Sample Id: 556810-006 | MS Sample Id: 556810-006 S | MSD Sample Id: 556810-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	44.3	997	1080	104	1080	104	70-135	0	35	mg/kg	07.06.17 14:50	
Diesel Range Organics (DRO)	323	997	1380	106	1350	103	70-135	2	35	mg/kg	07.06.17 14:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		110		70-135	%	07.06.17 14:50
o-Terphenyl	100		106		70-135	%	07.06.17 14:50

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3021700 | Matrix: Solid | Date Prep: 07.06.17
MB Sample Id: 727313-1-BLK | LCS Sample Id: 727313-1-BKS | LCSD Sample Id: 727313-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.125	124	0.101	101	70-130	21	35	mg/kg	07.06.17 21:17	
Toluene	<0.00202	0.101	0.117	116	0.0917	92	70-130	24	35	mg/kg	07.06.17 21:17	
Ethylbenzene	<0.00202	0.101	0.115	114	0.0947	95	71-129	19	35	mg/kg	07.06.17 21:17	
m,p-Xylenes	<0.00403	0.202	0.207	102	0.170	85	70-135	20	35	mg/kg	07.06.17 21:17	
o-Xylene	<0.00202	0.101	0.111	110	0.0936	94	71-133	17	35	mg/kg	07.06.17 21:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		87		95		80-120	%	07.06.17 21:17
4-Bromofluorobenzene	111		86		91		80-120	%	07.06.17 21:17

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3021705 | Matrix: Solid | Date Prep: 07.07.17
MB Sample Id: 727314-1-BLK | LCS Sample Id: 727314-1-BKS | LCSD Sample Id: 727314-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.117	116	0.116	115	70-130	1	35	mg/kg	07.07.17 08:50	
Toluene	<0.00202	0.101	0.107	106	0.103	102	70-130	4	35	mg/kg	07.07.17 08:50	
Ethylbenzene	<0.00202	0.101	0.111	110	0.112	111	71-129	1	35	mg/kg	07.07.17 08:50	
m,p-Xylenes	<0.00404	0.202	0.196	97	0.199	99	70-135	2	35	mg/kg	07.07.17 08:50	
o-Xylene	<0.00202	0.101	0.104	103	0.108	107	71-133	4	35	mg/kg	07.07.17 08:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		88		94		80-120	%	07.07.17 08:50
4-Bromofluorobenzene	106		115		99		80-120	%	07.07.17 08:50

QC Summary 556810

TRC Solutions, Inc

Merlin State Com #002H (1/11/17)

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3021965 — Matrix: Solid — Date Prep: 07.10.17
MB Sample Id: 727471-1-BLK — LCS Sample Id: 727471-1-BKS — LCSD Sample Id: 727471-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0970	98	0.123	123	70-130	24	35	mg/kg	07.11.17 01:06	
Toluene	<0.00199	0.0994	0.0865	87	0.115	115	70-130	28	35	mg/kg	07.11.17 01:06	
Ethylbenzene	<0.00199	0.0994	0.0941	95	0.121	121	71-129	25	35	mg/kg	07.11.17 01:06	
m,p-Xylenes	<0.00398	0.199	0.166	83	0.210	105	70-135	23	35	mg/kg	07.11.17 01:06	
o-Xylene	<0.00199	0.0994	0.0979	98	0.111	111	71-133	13	35	mg/kg	07.11.17 01:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		84		106		80-120	%	07.11.17 01:06
4-Bromofluorobenzene	96		93		97		80-120	%	07.11.17 01:06

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3021700 — Matrix: Soil — Date Prep: 07.06.17
Parent Sample Id: 556808-007 — MS Sample Id: 556808-007 S — MSD Sample Id: 556808-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.112	112	0.110	110	70-130	2	35	mg/kg	07.06.17 21:49	
Toluene	<0.00200	0.0998	0.0954	96	0.0886	89	70-130	7	35	mg/kg	07.06.17 21:49	
Ethylbenzene	<0.00200	0.0998	0.0902	90	0.0861	86	71-129	5	35	mg/kg	07.06.17 21:49	
m,p-Xylenes	<0.00399	0.200	0.156	78	0.152	76	70-135	3	35	mg/kg	07.06.17 21:49	
o-Xylene	<0.00200	0.0998	0.0907	91	0.0801	80	71-133	12	35	mg/kg	07.06.17 21:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		107		80-120	%	07.06.17 21:49
4-Bromofluorobenzene	118		101		80-120	%	07.06.17 21:49

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3021705 — Matrix: Soil — Date Prep: 07.07.17
Parent Sample Id: 556810-012 — MS Sample Id: 556810-012 S — MSD Sample Id: 556810-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.101	101	0.121	121	70-130	18	35	mg/kg	07.07.17 09:23	
Toluene	<0.00200	0.0998	0.0966	97	0.114	114	70-130	17	35	mg/kg	07.07.17 09:23	
Ethylbenzene	<0.00200	0.0998	0.0958	96	0.110	110	71-129	14	35	mg/kg	07.07.17 09:23	
m,p-Xylenes	<0.00399	0.200	0.168	84	0.194	97	70-135	14	35	mg/kg	07.07.17 09:23	
o-Xylene	<0.00200	0.0998	0.0870	87	0.106	106	71-133	20	35	mg/kg	07.07.17 09:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		98		80-120	%	07.07.17 09:23
4-Bromofluorobenzene	98		98		80-120	%	07.07.17 09:23

QC Summary 556810

TRC Solutions, Inc

Merlin State Com #002H (1/11/17)

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3021965 Matrix: Soil Date Prep: 07.10.17

Parent Sample Id: 556811-001 MS Sample Id: 556811-001 S MSD Sample Id: 556811-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.109	109	0.103	103	70-130	6	35	mg/kg	07.11.17 11:14	
Toluene	<0.00200	0.100	0.0984	98	0.0907	91	70-130	8	35	mg/kg	07.11.17 11:14	
Ethylbenzene	<0.00200	0.100	0.102	102	0.0879	88	71-129	15	35	mg/kg	07.11.17 11:14	
m,p-Xylenes	0.0181	0.200	0.182	82	0.185	83	70-135	2	35	mg/kg	07.11.17 11:14	
o-Xylene	<0.00200	0.100	0.101	101	0.0933	93	71-133	8	35	mg/kg	07.11.17 11:14	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		98		80-120	%	07.11.17 11:14
4-Bromofluorobenzene	98		103		80-120	%	07.11.17 11:14

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San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
www.xenco.com
Phoenix, Arizona (480-355-0900)

Xenco Quote # | Xenco Job # 556810

Client / Reporting Information

Company Name / Branch: TRC
Company Address: 2057 Commerce Drive, Midland, Texas 79703
Email: ngreen@trcsolutions.com | Phone No: 432-664-6699
Project Contact: Nikki Green
Samplers's Name: Nikki Green

Project Information

Project Name/Number: Merlin State Com #002H (1/11/17)
Project Location: Lea County, NM
Invoice To: Rebecca Haskell with COG Operating LLC rhaskell@concho.com, 600 W Illinois Avenue | Midland, TX 79701, Direct: 432-818-2372 | Main: 432.683.7443
PO Number:

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH 8015M EXT 36	BTEX 8021B	Chloride E300.0	Field Comments
1	Trench-1 2'		28-Jun	1225	S	1								x	X	X	X	
2	Trench-1 6'		28-Jun	1320	S	1								x	X	X	X	
3	Trench-1 12'		28-Jun	1445	S	1								x	X	X	X	
4	Trench-2 3'		28-Jun	1450	S	1								x	X	X	X	
5	Trench-2 4'		28-Jun	1530	S	1								x	X	X		
6	Trench-2 6'		28-Jun	1545	S	1								x	X	X	x	
7	Trench-2 8'		28-Jun	1550	S	1								x	X	X		
8	Trench-2 11'		28-Jun	1555	S	1								x	X	X	X	
9	Trench-2 14'		28-Jun	1607	S	1								x	X	X	X	
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [x] Level II Std QC
- [ ] Level III Std QC+ Forms
- [ ] Level 3 (CLP Forms)
- [ ] TRRP Checklist
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] TRRP Level IV
- [ ] UST / RG -411

Notes:

Temp: 5.1 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 4.9

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Nikki Green	7/3/17 1155	1	2		2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor

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San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
www.xenco.com
Phoenix, Arizona (480-355-0900)

Xenco Quote # | Xenco Job # 556815

Client / Reporting Information

Company Name / Branch: TRC
Company Address: 2057 Commerce Drive, Midland, Texas 79703
Email: ngreen@trcsolutions.com
Phone No: 432-664-6699
Project Contact: Nikki Green
Samplers's Name: Nikki Green

Project Information

Project Name/Number: Merlin State Com #002H (1/11/17)
Project Location: Lea County, NM
Invoice To: Rebecca Haskell with COG Operating LLC rhaskell@concho.com, 600 W Illinois Avenue | Midland, TX 79701, Direct: 432-818-2372 | Main: 432.683.7443
PO Number:

Analytical Information | **Matrix Codes**

Matrix Codes: W = Water; S = Soil/Sed/Solid; GW =Ground Water; DW = Drinking Water; P = Product; SW = Surface water; SL = Sludge; OW =Ocean/Sea Water; WI = Wipe; O = Oil; WW= Waste Water; A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015M EXT 36	BTEX 8021B	Chloride E300.0	Field Comments
1	West Trench-1 2'		28-Jun	1245	S	1								x	X	X	X	
2	North Trench-1 2'		28-Jun	1620	S	1								x	X	X	X	
3	East Trench-1 2'		28-Jun	1638	S	1								x	X	X	X	
4	South Trench-1 2'		28-Jun	1645	S	1								x	X	X	x	
5																		
6																		
7																		
8																		
9																		
10																		

Temp: 5.1 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 4.9

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [X] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [X] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Nikki Green	7/3/17 1105	1	2		2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 07/03/2017 11:55:00 AM

Work Order #: 556810

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**N/A**
#21 VOC samples have zero headspace?	**N/A**

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer — Date: 07/03/2017

Jessica Kramer

Checklist reviewed by: Kelsey Brooks — Date: 07/03/2017

Kelsey Brooks

Certificate of Analysis Summary 556811

TRC Solutions, Inc, Midland, TX

Project Name: Merlin State Com #002H (1/11/17)

Project Id:

Contact: Nikki Green

Project Location: Lea Co NM

Date Received in Lab: Mon Jul-03-17 11:55 am

Report Date: 11-JUL-17

Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	556811-001					
	Field Id:	BG-1 1'					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Jun-28-17 17:07					
BTEX by EPA 8021B	***Extracted:***	Jul-10-17 18:00					
	Analyzed:	Jul-11-17 09:21					
	Units/RL:	mg/kg	RL				
Benzene		<0.00345	0.00345				
Toluene		<0.00345	0.00345				
Ethylbenzene		<0.00345	0.00345				
m,p-Xylenes		0.0181	0.00690				
o-Xylene		<0.00345	0.00345				
Total Xylenes		0.0181	0.00345				
Total BTEX		0.0181	0.00345				
Chloride by EPA 300	***Extracted:***	Jul-07-17 17:10					
	Analyzed:	Jul-08-17 01:39					
	Units/RL:	mg/kg	RL				
Chloride		12.1	4.99				
TPH by SW8015 Mod	***Extracted:***	Jul-05-17 08:00					
	Analyzed:	Jul-05-17 18:34					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0				
Oil Range Hydrocarbons (ORO)		<15.0	15.0				
Total TPH		<15.0	15.0				

Mike Kimmel
Client Services Manager

Analytical Report 556811

for

TRC Solutions, Inc

Project Manager: Nikki Green

Merlin State Com #002H (1/11/17)

11-JUL-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

11-JUL-17

Project Manager: **Nikki Green**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **556811**
Merlin State Com #002H (1/11/17)
Project Address: Lea Co NM

Nikki Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 556811. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 556811 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Mike Kimmel
Client Services Manager

Sample Cross Reference 556811

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BG-1 1'	S	06-28-17 17:07		556811-001

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3021965 BTEX by EPA 8021B

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

Certificate of Analytical Results 556811

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**BG-1 1'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556811-001	Date Collected:	06.28.17 17.07		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	07.07.17 17.10	Basis:	Wet Weight
Seq Number:	3021784				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.1**	4.99	mg/kg	07.08.17 01.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	07.05.17 08.00	Basis:	Wet Weight
Seq Number:	3021778				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.05.17 18.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.05.17 18.34	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.05.17 18.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.05.17 18.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	07.05.17 18.34	
o-Terphenyl	84-15-1	120	%	70-135	07.05.17 18.34	

Certificate of Analytical Results 556811

TRC Solutions, Inc, Midland, TX

Merlin State Com #002H (1/11/17)

Sample Id:	**BG-1 1'**	Matrix:	Soil	Date Received:	07.03.17 11.55
Lab Sample Id:	556811-001	Date Collected:	06.28.17 17.07		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.10.17 18.00	Basis:	Wet Weight
Seq Number:	3021965				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00345	0.00345	mg/kg	07.11.17 09.21	U	1
Toluene	108-88-3	<0.00345	0.00345	mg/kg	07.11.17 09.21	U	1
Ethylbenzene	100-41-4	<0.00345	0.00345	mg/kg	07.11.17 09.21	U	1
m,p-Xylenes	179601-23-1	**0.0181**	0.00690	mg/kg	07.11.17 09.21		1
o-Xylene	95-47-6	<0.00345	0.00345	mg/kg	07.11.17 09.21	U	1
Total Xylenes	1330-20-7	**0.0181**	0.00345	mg/kg	07.11.17 09.21		1
Total BTEX		**0.0181**	0.00345	mg/kg	07.11.17 09.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	80-120	07.11.17 09.21	
1,4-Difluorobenzene	540-36-3	82	%	80-120	07.11.17 09.21	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

QC Summary 556811

TRC Solutions, Inc

Merlin State Com #002H (1/11/17)

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3021784 Matrix: Solid Date Prep: 07.07.17
MB Sample Id: 727342-1-BLK LCS Sample Id: 727342-1-BKS LCSD Sample Id: 727342-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	265	106	268	107	90-110	1	20	mg/kg	07.07.17 23:52	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3021784 Matrix: Soil Date Prep: 07.07.17
Parent Sample Id: 556810-004 MS Sample Id: 556810-004 S MSD Sample Id: 556810-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	141	246	411	110	451	126	90-110	9	20	mg/kg	07.08.17 00:15	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3021784 Matrix: Soil Date Prep: 07.07.17
Parent Sample Id: 556930-002 MS Sample Id: 556930-002 S MSD Sample Id: 556930-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	380	248	638	104	596	87	90-110	7	20	mg/kg	07.08.17 02:02	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3021778 Matrix: Solid Date Prep: 07.05.17
MB Sample Id: 727238-1-BLK LCS Sample Id: 727238-1-BKS LCSD Sample Id: 727238-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	988	99	999	100	70-135	1	35	mg/kg	07.05.17 10:08	
Diesel Range Organics (DRO)	<15.0	1000	952	95	953	95	70-135	0	35	mg/kg	07.05.17 10:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		110		108		70-135	%	07.05.17 10:08
o-Terphenyl	117		111		100		70-135	%	07.05.17 10:08

QC Summary 556811

TRC Solutions, Inc

Merlin State Com #002H (1/11/17)

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3021778 | Matrix: Soil | Date Prep: 07.05.17
Parent Sample Id: 556812-002 | MS Sample Id: 556812-002 S | MSD Sample Id: 556812-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1060	106	1090	109	70-135	3	35	mg/kg	07.05.17 11:29	
Diesel Range Organics (DRO)	<15.0	1000	1090	109	1100	110	70-135	1	35	mg/kg	07.05.17 11:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		123		70-135	%	07.05.17 11:29
o-Terphenyl	122		116		70-135	%	07.05.17 11:29

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3021965 | Matrix: Solid | Date Prep: 07.10.17
MB Sample Id: 727471-1-BLK | LCS Sample Id: 727471-1-BKS | LCSD Sample Id: 727471-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0970	98	0.123	123	70-130	24	35	mg/kg	07.11.17 01:06	
Toluene	<0.00199	0.0994	0.0865	87	0.115	115	70-130	28	35	mg/kg	07.11.17 01:06	
Ethylbenzene	<0.00199	0.0994	0.0941	95	0.121	121	71-129	25	35	mg/kg	07.11.17 01:06	
m,p-Xylenes	<0.00398	0.199	0.166	83	0.210	105	70-135	23	35	mg/kg	07.11.17 01:06	
o-Xylene	<0.00199	0.0994	0.0979	98	0.111	111	71-133	13	35	mg/kg	07.11.17 01:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		84		106		80-120	%	07.11.17 01:06
4-Bromofluorobenzene	96		93		97		80-120	%	07.11.17 01:06

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3021965 | Matrix: Soil | Date Prep: 07.10.17
Parent Sample Id: 556811-001 | MS Sample Id: 556811-001 S | MSD Sample Id: 556811-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.109	109	0.103	103	70-130	6	35	mg/kg	07.11.17 11:14	
Toluene	<0.00200	0.100	0.0984	98	0.0907	91	70-130	8	35	mg/kg	07.11.17 11:14	
Ethylbenzene	<0.00200	0.100	0.102	102	0.0879	88	71-129	15	35	mg/kg	07.11.17 11:14	
m,p-Xylenes	0.0181	0.200	0.182	82	0.185	83	70-135	2	35	mg/kg	07.11.17 11:14	
o-Xylene	<0.00200	0.100	0.101	101	0.0933	93	71-133	8	35	mg/kg	07.11.17 11:14	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		98		80-120	%	07.11.17 11:14
4-Bromofluorobenzene	98		103		80-120	%	07.11.17 11:14

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Quote #
Xenco Job # 556811

Client / Reporting Information

Company Name / Branch: TRC
Company Address: 2057 Commerce Drive, Midland, Texas 79703
Email: ngreen@trcsolutions.com
Phone No: 432-664-6699
Project Contact: Nikki Green
Samplers's Name: Nikki Green

Project Information

Project Name/Number: Merlin State Com #002H (1/11/17)
Project Location: Lea County, NM
Invoice To: Rebecca Haskell with COG Operating LLC rhaskell@concho.com
600 W Illinois Avenue | Midland, TX 79701
Direct: 432-818-2372 | Main: 432.683.7443
PO Number:

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH 8015M EXT 36	BTEX 8021B	Chloride E300.0	Field Comments
1	BG-1 1'		28-Jun	1707	S	1								x	X	X	X	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [X] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [X] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

Temp: 5.1 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C) 4.9
Corrected Temp:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Nikki Green	7/3/17 1155	1	2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
			5			

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 07/03/2017 11:55:00 AM

Work Order #: 556811

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**N/A**
#21 VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Jessica Kramer Date: 07/03/2017
Jessica Kramer

Checklist reviewed by: Kelsey Brooks Date: 07/03/2017
Kelsey Brooks

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company:	COG Operating LLC	Contact:	Robert McNeill
Address:	600 West Illinois Avenue, Midland TX 79701	Telephone No.	432-683-7443
Facility Name:	MERLIN STATE COM #002H	Facility Type:	Tank Battery

Surface Owner: State	Mineral Owner:	API No. 30-025-41938

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	32	21S	34E	440'	North	660'	West	Lea

Latitude 32.4419975 **Longitude** 103.4983597

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 70bbls Oil & 55bbls of Produced Water	Volume Recovered: 68bbls of Oil & 53bbls of Produced Water
Source of Release: FWKO	Date and Hour of Occurrence: 1-11-2017 09:00 am	Date and Hour of Discovery: 1-11-2017 09:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Lynch – NMOCD / Ms. Groves - SLO	
By Whom? Robert Grubbs Jr.	Date and Hour: Thu 1/12/2017 2:11 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By Olivia Yu at 1:09 pm, Jan 18, 2017

Describe Cause of Problem and Remedial Action Taken.*

The release was caused by a gasket that failed on a FWKO. Replaced the gasket with a new one.

Describe Area Affected and Cleanup Action Taken.*

This release was mostly contained within the lined facility a small area of 30 X 50 on the pad.. Concho will have the spill site sampled to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Robert Grubbs Jr.	Approved by Environmental Specialist:
Title: Senior HSE Coordinator	Approval Date: 01/18/2017 Expiration Date:
E-mail Address: rgrubbs@concho.com	Conditions of Approval: see attached directive ☑ Attached
Date: January 13, 2017 Phone: 432-683-7443	

* Attach Additional Sheets If Necessary

RP4569

nOY1701847566

pOY1701847740

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _01/13/2017_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number __1R-4569__ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _02/18/2017__. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

● Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

● Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

● Nominal detection limits for field and laboratory analyses must be provided.

● Composite sampling is not generally allowed.

● Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

●Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

● If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

● Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

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