REMEDIATION SUMMARY AND

SOIL CLOSURE REQUEST

COG Operating, LLC
Lusk Deep Unit A #029H
Lea County, New Mexico
Unit Letter "D", Section 17, Township 19 South, Range 32 East
Latitude 32.66675° North, Longitude 103.79485° West
NMOCD Reference Nos. 1RP-4882 & 1RP-4897

Prepared For:

COG Operating, LLC
600 W Illinois Avenue
Midland, Texas 79701

Prepared By:

TRC Environmental Corporation
10 Desta Drive, Suite 150E
Midland, Texas 79705

May 2018

Joel Lowry
Senior Project Manager

Curt Stanley
Senior Project Manager

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

INTRODUCTION & BACKGROUND INFORMATION

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG), has prepared this *Remediation Summary and Soil Closure Request* for the Site known as the Lusk Deep Unit A #029H. The legal description of the Site is Unit Letter "D", Section 17, Township 19 South, Range 32 East, in Lea County, New Mexico. The subject property is owned by the United States Department of the Interior and administered by the Bureau of Land Management (BLM). The GPS coordinates for the site are N 32.66675° W 103.79485°. A "Site Location Map" is provided as Figure 1. A "Site and Sample Location Map" is provided as Figure 2.

On November 24, 2017, COG discovered a release had occurred at the Lusk Deep Unit A #029H. The release was attributed to the failure of a four (4)-inch (in.) suction line, resulting in the release of approximately twenty (20) barrels (bbls) of produced water and ten (10) bbls of crude oil. During initial response activities, vacuum trucks were utilized to recover approximately ten (10) bbls of produced water and eight (8) bbls of crude oil. Upon discovering the release, the NMOCD and BLM were notified. The release affected an area measuring approximately eleven thousand (11,000) square feet (sq. ft.) on the caliche well pad and approximately two thousand (2,000) sq. ft. of pasture on the southeast side of the well pad. Please reference the Form C-141, dated November 28, 2017, in Appendix C.

On December 16, 2017, a second release had occurred at the Lusk Deep Unit A #029H. The release was attributed to the failure of the H-pump, resulting in the release of approximately fifteen (15) bbls of produced water. During initial response activities, vacuum trucks were utilized to recover approximately ten (10) bbls of produced water. Upon discovering the release, the NMOCD and BLM were notified. The release affected an area indistinguishable from the previous release. Please reference the Form C-141, dated December 18, 2017, in Appendix C.

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 17, Township 19 South, Range 32 East. A reference map utilized by the NMOCD Hobbs District Office indicates groundwater should be encountered at approximately four hundred fifty (450) feet (ft.) below ground surface (bgs). 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 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 five thousand (5,000) mg/kg for total petroleum hydrocarbons (TPH). Per NMOCD request, chloride remediation levels for the Release Site will be six hundred (600) mg/kg.

On December 21, 2017, TRC conducted an initial investigation at the site. During the initial investigation, a series of hand-augered soil bores (SP #1 through SP #5) were advanced within the release margins in an effort to determine the vertical extent of soil impact. During the advancement of the soil bores, sixteen (16) soil samples (SP #1 @ Surf., SP #1 @ 1', SP #1 @ 2', SP #2 @ Surf., SP #2 @ 1', SP #2 @ 4', SP #3 @ Surf., SP #3 @ 1', SP #3 @ 2', SP #4 @ Surf., SP #4 @1', SP #4 @ 2', SP #5 @ Surf., SP #5 @ 1', SP #5 @ 2' and SP #5 @ 3') were collected and submitted to Xenco Laboratories in Midland, Texas for determination of chloride using Method 300/300.1. Laboratory analytical results indicated chloride concentrations ranged from 13,300 mg/kg for soil sample SP #3 @ Surf. to 22.3 mg/kg in soil sample SP #3 @ 2'. Laboratory analytical results indicated soil was not affected above the NMOCD RRAL for chloride in the area represented by sample point SP #4. Analytical results indicated soil was not affected above the NMOCD RRAL for chloride below one (1) ft. bgs in the area represented by sample points SP #1 and SP #3, and below two (2) ft. in the area represented by sample point SP #5. Collection of additional soil samples from deeper intervals in the area characterized by sample point SP #2 was precluded due to the presence of an impenetrable rock layer.

Soil samples SP #1 @ Surf., SP #1 @ 1', SP #1 @ 2', SP #2 @ Surf., SP #2 @ 1', SP #3 @ Surf., SP #3 @ 1', SP #4 @ Surf., SP #4 @ 1', SP #4 @ 2', SP #5 @ Surf., SP #5 @ 1', SP #5 @ 2' and SP #5 @ 3' were also analyzed for concentrations of TPH using Method SW 846-8015M. Laboratory analytical results indicated TPH concentrations ranged from 36,580 mg/kg in soil sample SP #4 @ Surf. to less than the applicable laboratory RL in soil samples SP #1 @ 1', SP #2 @1', and SP #3 @ 1'. Laboratory analytical results indicated soil was not affected above the NMOCD RRAL for TPH in the area represented by sample point SP # 3. Analytical results indicated soil was not affected above the NMOCD RRAL for TPH below one (1) ft. bgs in the area represented by sample points SP #1 and SP #2, below two (2) ft. bgs in the area represented by sample point SP #4, and below three (3) ft. bgs in the area characterized by sample point SP #5. It should be noted soil samples SP #4 @ 2' and SP #5 @ 3' were analyzed outside of recommended hold time for TPH.

Soil samples SP #1 @ Surf., SP #1 @ 1' SP #2 @ Surf., SP #2 @1', SP #3 @ Surf., SP #4 @ Surf., SP #4 @ 1'. SP #4 @ 2', SP #5 @ Surf., SP #5 @ 1', SP #5 @ 2', and SP # 5 @ 3' were also analyzed for concentrations of BTEX using Method SW 846-8021B. Laboratory analytical results indicated benzene concentrations ranged from 32.5 mg/kg in soil sample SP #5 @ Surf. to less than the applicable laboratory RL in soil samples SP #1 @ 1', SP #2 @ 1', SP #4 @ 1', SP #4 @ 2' and SP #5 @ 3'. Total BTEX concentrations ranged from 1,002.50 mg/kg in soil sample SP #5 @ Surf. to less than the applicable laboratory RL in soil samples SP #1 @ 1', SP #2 @ 1' and SP #4 @ 2'. Laboratory analytical results indicated soil was not affected above the NMOCD RRAL for BTEX in the area represented by sample point SP #3. Analytical results indicated soil was not affected above the NMOCD RRAL for benzene or BTEX below one (1) ft. bgs in the area represented by sample points SP #1 and SP #2, below two (2) ft. in the area represented by sample point SP #4, and below three (3) ft. bgs in the area represented by SP #5.

In addition, TRC collected eight (8) soil samples (North #1, North #2, East #1, East #2, East #3, West #1, South #1, and South #2) adjacent to the inferred release margins in an effort to determine the horizontal extent of soil impacts. The collected soil samples were submitted to the laboratory for analysis of BTEX, TPH and chloride. Laboratory analytical results indicated benzene, BTEX, TPH, and chloride concentrations were less than the NMOCD RRAL in each of the submitted soil samples, with the exception of soil sample South #1, which exhibited a chloride concentration of

743 mg/kg. Based on laboratory analytical results, additional delineation is required in the area characterize by soil sample South #1. Laboratory analytical results are summarized in Table 1 - Concentrations of Benzene, BTEX, TPH and Chloride in Soil. Laboratory analytical reports are provided in Appendix A. A Photographic Log is provided in Appendix B.

On February 7, 2017, COG submitted a *Workplan* to the NMOCD and BLM proposing remediation activities designed to advance the site toward an approved closure. The Work Plan proposed excavating impacted soil within the release margins in the areas characterized by sample points SP #1 and SP #3 to a depth of one (1) ft. bgs, SP #4 to a depth of approximately two (2) ft. bgs, SP #5 to a depth of approximately three (3) ft. bgs and SP #2 to a depth of approximately five (5) ft. bgs, or until chloride field test results indicated impacted soil affected above the NMOCD RRAL for chloride had been removed. In addition, the *Workplan* proposed collecting floor and sidewall soil samples at approximately fifty (50) ft. increments for confirmation laboratory analysis of chloride and/or TPH; the *Workplan* was subsequently approved.

SUMMARY OF SOIL REMEDIATION ACTIVITIES

On March 16, 2018, remediation activities commenced at the Release Site. Impacted soil within the release margins was excavated, and stockpiled on-site, atop an impermeable liner. The floor and sidewalls of the excavated area were advanced until laboratory analytical results from confirmation soil samples indicated concentrations of BTEX, TPH and chloride were below the NMOCD RRAL.

On March 28, 2018, upon excavating impacted soil from within the release margins, TRC collected fifty-four (54) excavation confirmation soil samples from the floor and sidewalls of the excavated area and submitted them to the laboratory for analysis of TPH and chloride. Laboratory analytical results indicated TPH and chloride concentrations were below the NMOCD RRAL in each of the submitted soil samples, with the exception of soil samples SP-1 Fl-7 and SP-2 @ 5', which exhibited chloride concentrations of 1,070 mg/kg and 1,170 mg/kg, respectively. Impacted soil affected above the NMOCD RRAL in the areas characterized by soil samples SP-1 Fl-7 and SP-2 @ 5' was excavated and placed into the existing soil stockpile. Soil sample SP-2 @ 5' was collected in an effort to demonstrate a decline of chloride concentrations with depth, and was not intended to serve as a confirmation floor sample. Impacted soil represented by soil sample SP-2 @ 5' was excavated and an excavation confirmation soil sample (SP-2 FL @ 6') was collected to characterize soil remaining in-situ. Select soil samples were also analyzed for concentrations of BTEX, which were determined to be below the NMOCD RRAL in each of the analyzed soil samples.

On April 6, 2018, TRC collected one (1) additional excavation confirmation soil sample (SP-1 Fl-7 @ 2', from the base of the excavation in the area characterized by soil sample SP-1 Fl-7. The collected soil sample was submitted to the laboratory for analysis of chloride concentrations, which were determined to be 204 mg/kg. Upon receiving laboratory analytical results from excavation confirmation soil samples, the excavated area on the caliche well pad was backfilled with locally-sourced, non-impacted caliche. The excavated area within the affected pasture was backfilled with locally-sourced, non-impacted sand.

Prior to backfilling, the final dimensions of the excavated area on the caliche well pad were two hundred (200) ft. in length, twenty (20) to one hundred (100) ft. in width and ranged from six (6)

in. to six (6) ft. in depth. The final dimensions of the excavated area within the affected pasture were ninety (90) ft. in length, twenty (20) to forty (40) ft. in width and ranged from two (2) to four (4) ft. in depth.

Between March 29 and April 6, 2018, approximately one thousand (1,000) cubic yards (cy) of impacted soil was transported to R360's Halfway Bar Facility for disposal.

SITE CLOSURE REQUEST

Remediation activities were conducted in accordance with the NMOCD and BLM-approved *Workplan*. Impacted soil within the release margins was excavated and transported to an NMOCD-approved disposal facility. Laboratory analytical results from confirmation soil samples collected from the floor and sidewalls of the excavated areas indicated benzene, BTEX, TPH and chloride concentrations were below the NMOCD RRAL in each of the analyzed soil samples. Upon receiving laboratory analytical results from excavation confirmation soil samples, the excavated area was backfilled with locally-source, non-impacted "like" material. Based on laboratory analytical results and field activities conducted to date, TRC recommends COG provide copies of this *Remediation Summary and Soil Closure Request* to the NMOCD and BLM request closure status to the November 24, and December 16, 2018 releases at the Lusk Deep Unit A #029H .

LIMITATIONS

TRC has prepared this *Remediation Summary and Soil Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended.

TRC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. TRC has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. TRC has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. TRC also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of COG Operating, LLC. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of TRC and/or COG Operating, LLC.

DISTRIBUTION

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

Copy 2: Henryetta Price
Carlsbad Field Office
United States Department of the Interior
Bureau of Land Management
620 E. Greene Street
Carlsbad, New Mexico 88220

Copy 3: Rebecca Haskell
COG Operating, LLC
600 W. Illinois Avenue
Midland, Texas 79701

Copy 4: TRC Environmental Corporation
10 Desta Drive, Suite 150 E
Midland, Texas 79705

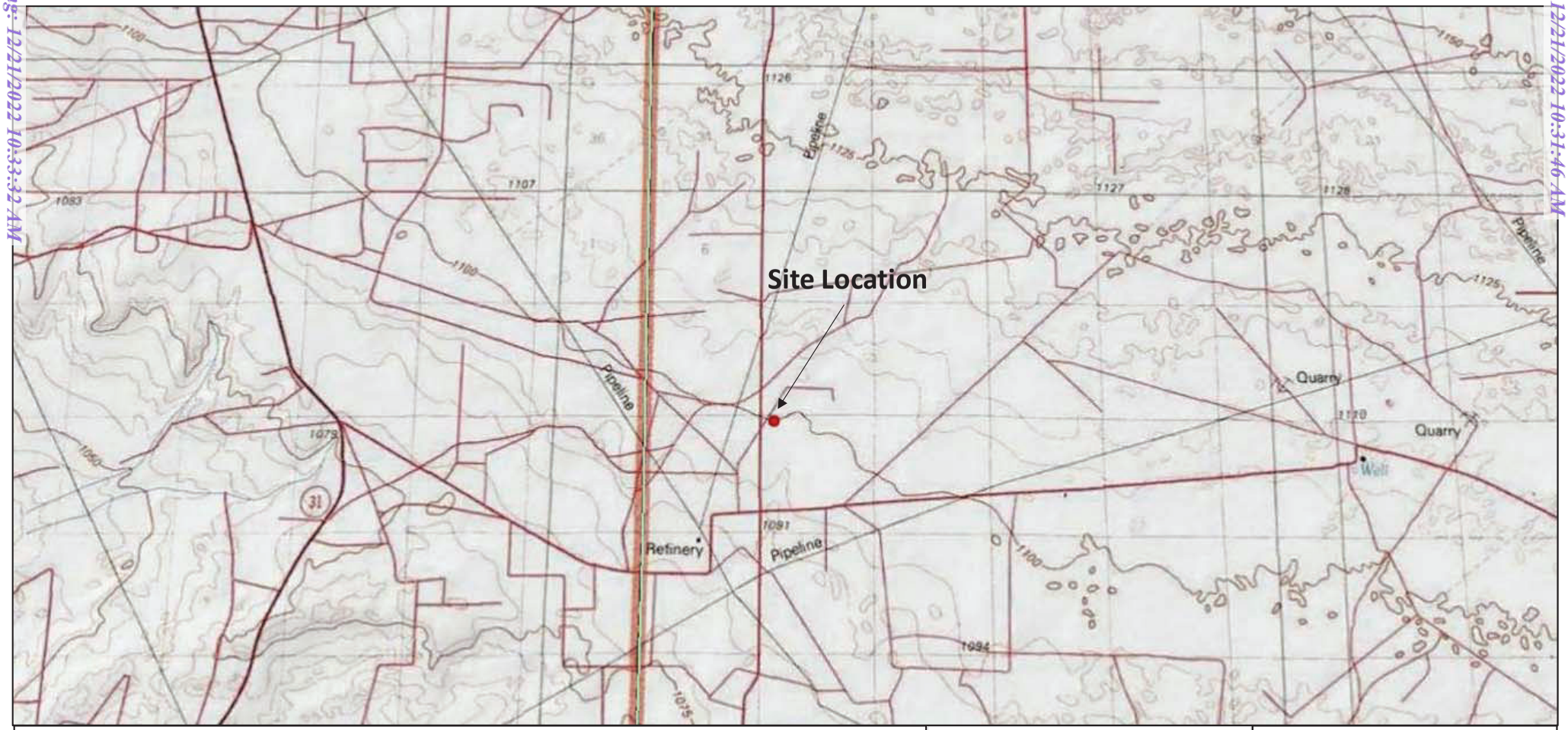


Figure 1

Site Location Map

COG Operating, LLC

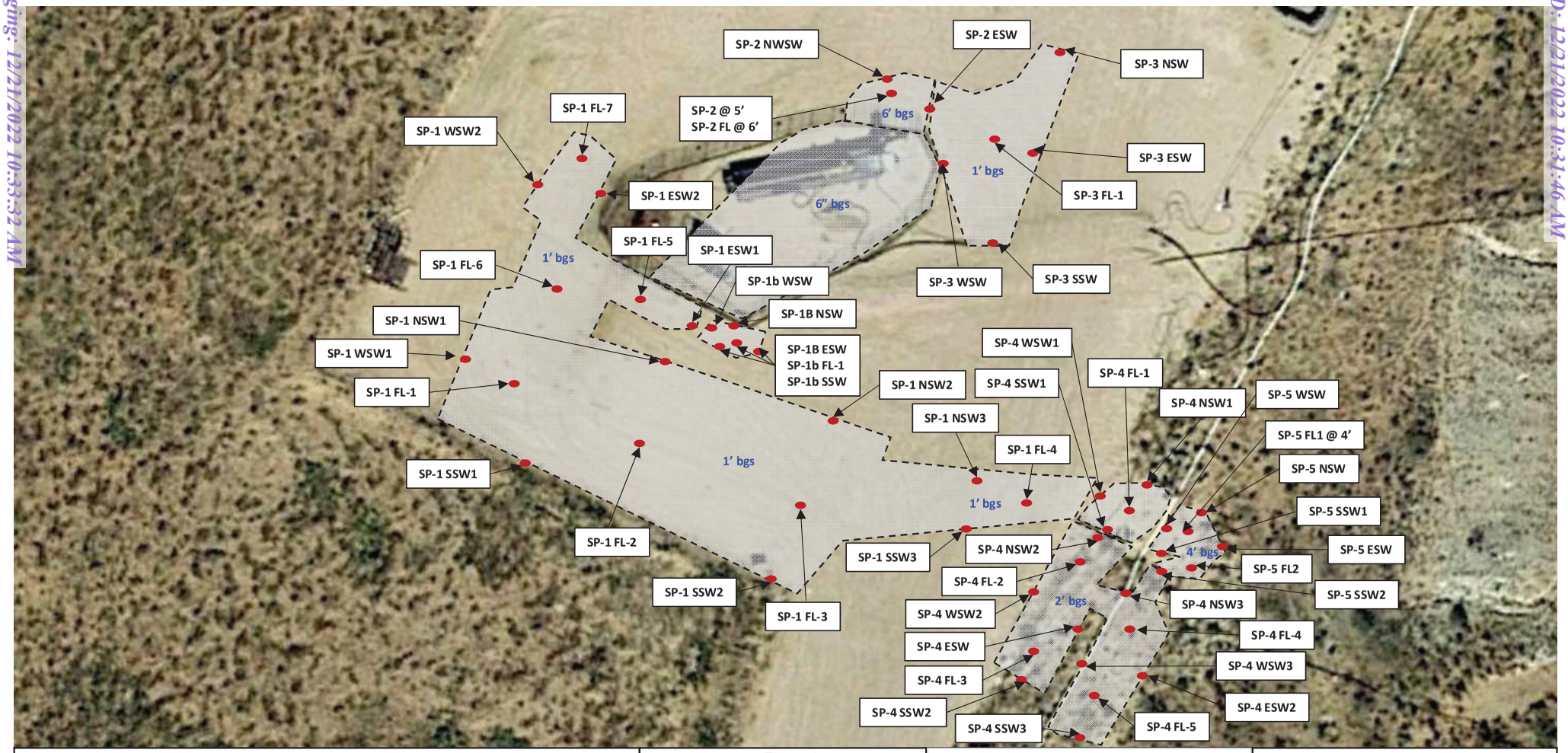
Lusk Deep Unit A #029H

Lea County, New Mexico

Scale 1" = ~50'	
Drafted by: ZC	Checked by: JL
Draft: January 12, 2018	
Lat. N 32.6667595 Long. W 103.7948532	
UL "D", Sec. 17, T19S, R32E	
TRC Proj. No.: 293103	

TRC
Results you can rely on

2057 Commerce Drive
Midland, Texas 79703
432.520.7720



LEGEND:
- Excavated Area
- Confirmation Sample Location

Figure 2

Site & Sample Location Map
COG Operating, LLC
Lusk Deep Unit A #029H

Lea County, New Mexico

Scale 1" = ~50'	
Drafted by: ZC	Checked by: JL
Draft: April 26, 2018	
Lat. N 32.6667595 Long. W 103.7948532	
UL "D", Sec. 17, T19S, R32E	
TRC Proj. No.: 293103	

TRC
Results you can rely on
2057 Commerce Drive
Midland, Texas 79703
432.520.7720

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH and CHLORIDE IN SOIL

COG OPERATING, LLC
LUSK DEEP UNIT #029H
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	DEPTH	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M				E 300.1
				BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	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_{35}	CHLORIDE
SP #1 @ Surf.	Surf.	12/21/2017	Excavated	0.565	14.5	15.1	27.49	**57.655**	541	7,800	799	**9,140**	**11,900**
SP #1 @ 1'	1'	12/21/2017	In-Situ	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<14.9	<14.9	<14.9	<14.9	57.2
SP #1 @ 2'	2'	12/21/2017	In-Situ	-	-	-	-	-	<14.9	15.0	<14.9	15.0	-
SP #2 @ Surf.	Surf.	12/21/2017	Excavated	1.70	36.8	26.8	46.1	**111.4**	846	8,590	1,460	**10,896**	**12,600**
SP #2 @ 1'	1'	12/21/2017	Excavated	<0.00100	<0.00100	<0.00100	<0.001	<0.001	<14.9	<14.9	<14.9	<14.9	**3,230**
SP #2 @ 4'	4'	12/21/2017	Excavated	-	-	-	-	-	-	-	-	-	**7,510**
SP #3 @ Surf.	Surf.	12/21/2017	Excavated	0.00249	0.0392	0.0105	0.01537	0.06756	38.1	1,330	181	1,549	**13,300**
SP #3 @ 1'	1'	12/21/2017	In-Situ	-	-	-	-	-	<14.9	<14.9	<14.9	<14.9	326
SP #3 @ 2'	2'	12/21/2017	In-Situ	-	-	-	-	-	-	-	-	-	22.3
SP #4 @ Surf.	Surf.	12/21/2017	Excavated	**17.0**	301	188	318.3	**824.3**	8,210	24,700	3,670	**36,580**	36.6
SP #4 @ 1'	1'	12/21/2017	Excavated	<0.0248	58.1	73.9	134.7	**266.7**	2,230	5,060	511	**7,801**	48.2
SP #4 @ 2'	2'	12/21/2017	In-Situ	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<14.9	<14.9	<14.9	<14.9	-
SP #5 @ Surf.	Surf.	12/21/2017	Excavated	**32.5**	334	229	407	**1,002.5**	8,780	17,100	2,710	**28,590**	**3,800**
SP #5 @ 1'	1'	12/21/2017	Excavated	**25.9**	291	158	265.4	**740.3**	7,030	9,150	921	**17,101**	**5,320**
SP #5 @ 2'	2'	12/21/2017	Excavated	0.406	36.5	54.3	78.7	**169.906**	2,160	4,680	565	**7,405**	51.8
SP #5 @ 3'	3'	12/21/2017	In-Situ	<0.0250	0.0472	0.399	2.21	2.6562	96.6	750	108	954.6	-
North #1	1'	12/21/2017	In-Situ	<0.000990	0.00144	<0.000990	<0.00099	0.00144	<15.0	<15.0	<15.0	<15.0	251
North #2	1'	12/21/2017	In-Situ	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	249
East #1	1'	12/21/2017	In-Situ	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	119
East #2	1'	12/21/2017	In-Situ	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<15.0	17.0	<15.0	17.0	<9.71
East #3	1'	12/21/2017	In-Situ	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<15.0	<15.0	<15.0	<15.0	<9.78
West #1	1'	12/21/2017	In-Situ	<0.000994	0.00147	<0.000994	<0.000994	0.00147	<15.0	<15.0	<15.0	<15.0	270
South #1	1'	12/21/2017	In-Situ	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<15.0	<15.0	<15.0	<15.0	**743**
South #2	1'	12/21/2017	In-Situ	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<14.9	<14.9	<14.9	<14.9	<9.71
SP-1 Fl-1	1'	3/28/2018	In-Situ	<0.0198	<0.0198	<0.0198	<0.0198	<0.0198	<3.95	<24.8	<24.8	<24.8	141
SP-1 Fl-2	1'	3/28/2018	In-Situ	<0.0198	<0.0198	<0.0198	<0.0198	<0.0198	<3.95	<25.2	<25.2	<25.2	35.4
SP-1 Fl-3	1'	3/28/2018	In-Situ	<0.0186	<0.0186	<0.0186	<0.0186	<0.0186	<3.72	<24.8	<24.8	<24.8	<25.0
SP-1 Fl-4	1'	3/28/2018	In-Situ	<0.0189	<0.0189	<0.0189	0.0549	0.0549	6.60	246	<24.9	252.6	51.0
SP-1 Fl-5	1'	3/28/2018	In-Situ	<0.0187	<0.0187	<0.0187	<0.0187	<0.0187	<3.75	41.9	<24.9	41.9	280
SP-1 Fl-6	1'	3/28/2018	In-Situ	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	<3.86	<25.2	<25.2	<25.2	<25.0
SP-1 Fl-7	1'	3/28/2018	Excavated	<0.0190	<0.0190	<0.0190	<0.019	<0.019	<3.80	191	<25.3	191	**1,070**
SP-1B Fl-1	1'	3/28/2018	In-Situ	<0.0193	<0.0193	0.0193	<0.0193	0.0193	<3.85	251	<25.0	251	204
SP-1B NSW	6"	3/28/2018	In-Situ	<0.0195	<0.0195	<0.0195	<0.0195	<0.0195	<3.90	26.8	<24.8	26.8	121
SP-1B ESW	6"	3/28/2018	In-Situ	<0.0189	<0.0189	<0.0189	<0.0189	<0.0189	<3.78	<25.3	<25.3	<25.3	29.0
SP-1b SSW	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.94	<25.1	<25.1	<25.1	139
SP-1b WSW	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.94	<25.2	<25.2	<25.2	230
SP-1 NSW1	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.94	<25.0	<25.0	<25.0	<25.0
SP-1 NSW2	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.70	<24.8	<24.8	<24.8	35.1
SP-1 NSW3	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.91	49.7	<24.9	49.7	491
SP-1 ESW1	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.87	<24.9	<24.9	<24.9	105
SP-1 ESW2	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.63	<25.3	<25.3	<25.3	554
SP-1 SSW1	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.78	<25.3	<25.3	<25.3	78.2
SP-1 SSW2	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.99	<25.0	<25.0	<25.0	99.8
SP-1 SSW3	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.67	<25.0	<25.0	<25.0	75.4
SP-1 WSW1	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.92	<25.0	<25.0	<25.0	87.6
SP-1 WSW2	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.58	<25.0	<25.0	<25.0	294
SP-2 @ 5'	5'	3/28/2018	Excavated	-	-	-	-	-	<3.77	<25.2	<25.2	<25.2	**1,170**
SP-2 FL @ 6'	6'	3/28/2018	In-Situ	<0.0190	<0.0190	<0.0190	<0.0190	<0.0190	<3.80	<25.1	<25.1	<25.1	228
SP-2 NWSW	3'	3/28/2018	In-Situ	-	-	-	-	-	<3.67	<25.3	<25.3	<25.3	252
SP-2 ESW	3'	3/28/2018	In-Situ	-	-	-	-	-	<4.00	91.3	25.1	116.4	70.6
SP-3 FL-1	1'	3/28/2018	In-Situ	<0.0181	<0.0181	<0.0181	<0.0181	<0.0181	<3.63	<25.0	<25.0	<25.0	55.5
SP-3 NSW	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.80	<25.1	<25.1	<25.1	<25.0
SP-3 ESW	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.72	<25.2	<25.2	<25.2	53.3
SP-3 SSW	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.77	<25.0	<25.0	<25.0	53.7
SP-3 WSW	6"	3/28/2018	In-Situ	-	-	-	-	-	<3.61	<25.3	<25.3	<25.3	393
SP-4 FL-1	2'	3/28/2018	In-Situ	<0.0183	<0.0183	<0.0183	<0.0183	<0.0183	<3.66	80.5	<15.0	80.5	26.9
SP-4 FL-2	2'	3/28/2018	In-Situ	<0.0200	<0.0200	<0.0200	<0.02	<0.02	<4.00	<25.2	<25.2	<25.2	<25.0
SP-4 FL-3	2'	3/28/2018	In-Situ	<0.0183	<0.0183	<0.0183	<0.0183	<0.0183	<3.66	<25.3	<25.3	<25.3	<25.0
SP-4 FL-4	2'	3/28/2018	In-Situ	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	<3.87	<25.3	<25.3	<25.3	<25.0
SP-4 FL-5	2'	3/28/2018	In-Situ	<0.0181	<0.0181	<0.0181	<0.0181	<0.0181	<3.61	<24.8	<24.8	<24.8	<25.0
SP-4 NSW1	1'	3/28/2018	In-Situ	-	-	-	-	-	<3.56	<25.1	<25.1	<25.1	<25.0
SP-4 NSW2	1'	3/28/2018	In-Situ	-	-	-	-	-	<3.55	<25.2	<25.2	<25.2	<25.0
SP-4 NSW3	1'	3/28/2018	In-Situ	-	-	-	-	-	<3.93	<24.9	<24.9	<24.9	<25.0
SP-4 ESW	1'	3/28/2018	In-Situ	-	-	-	-	-	<3.82	<25.1	<25.1	<25.1	<25.0
SP-4 ESW2	1'	3/28/2018	In-Situ	-	-	-	-	-	<3.72	<25.2	<25.2	<25.2	<25.0
SP-4 SSW1	1'	3/28/2018	In-Situ	-	-	-	-	-	<3.51	<24.9	<24.9	<24.9	<25.0
SP-4 SSW2	1'	3/28/2018	In-Situ	-	-	-	-	-	<3.92	<25.0	<25.0	<25.0	<25.0
SP-4 SSW3	1'	3/28/2018	In-Situ	-	-	-	-	-	<3.77	<25.1	<25.1	<25.1	25.2
SP-4 WSW1	1'	3/28/2018	In-Situ	-	-	-	-	-	<3.83	<24.9	<24.9	<24.9	<25.0
SP-4 WSW2	1'	3/28/2018	In-Situ	-	-	-	-	-	<3.81	<25.2	<25.2	<25.2	<25.0
SP-4 WSW3	1'	3/28/2018	In-Situ	-	-	-	-	-	<3.61	<25.1	<25.1	<25.1	28.0
SP-5 FL1 @ 4'	3'	3/28/2018	In-Situ	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175	<3.50	<24.8	<24.8	<24.8	<25.0
SP-5 FL2	3'	3/28/2018	In-Situ	<0.0196	<0.0196	<0.0196	<0.0196	<0.0196	<3.93	<25.1	<25.1	<25.1	<25.0
SP-5 NSW	1.5'	3/28/2018	In-Situ	-	-	-	-	-	<3.64	<25.0	<25.0	<25.0	<25.0
SP-5 ESW	1.5'	3/28/2018	In-Situ	<0.0183	<0.0183	<0.0183	<0.0183	<0.0183	<3.66	<24.8	<24.8	<24.8	<25.0
SP-5 SSW-1	1.5'	3/28/2018	In-Situ	-	-	-	-	-	<3.77	<24.8	<24.8	<24.8	<25.0
SP-5 SSW-2	1.5'	3/28/2018	In-Situ	-	-	-	-	-	<3.52	<24.8	<24.8	<24.8	<25.0
SP-5 WSW	1.5'	3/28/2018	In-Situ	-	-	-	-	-	<3.51	<25.2	<25.2	<25.2	<25.0
SP-1 FL-7 @ 2'	2'	4/6/2018	In-Situ	-	-	-	-	-	-	-	-	-	204
NMOCD Recommended Remediation Action Level				**10**	**-**	**-**	**-**	**50**	**-**	**-**	**-**	**5,000**	**600**

Analytical Report 572221

for

TRC Solutions, Inc

Project Manager: Joel Lowry

Lusk Deep Unit A #029H

22-JAN-18

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

22-JAN-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **572221**
Lusk Deep Unit A #029H
Project Address: Lea Co. NM

Joel Lowry:

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) 572221. 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. 572221 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 572221

TRC Solutions, Inc, Midland, TX

Lusk Deep Unit A #029H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP #1 @ Surf.	S	12-21-17 10:25	0	572221-001
SP #1 @ 1'	S	12-21-17 10:30	1 ft	572221-002
SP #1 @ 2'	S	12-21-17 10:35	2 ft	572221-003
SP #2 @ Surf.	S	12-21-17 10:40	0	572221-004
SP #2 @ 1'	S	12-21-17 10:45	1 ft	572221-005
SP #2 @ 4'	S	12-21-17 10:55	7 ft	572221-007
SP #3 @ Surf.	S	12-21-17 11:00	0	572221-008
SP #3 @ 1'	S	12-21-17 11:05	1 ft	572221-009
SP #3 @ 2'	S	12-21-17 11:10	2 ft	572221-010
SP #4 @ Surf.	S	12-21-17 11:15	0	572221-011
SP #4 @ 1'	S	12-21-17 11:20	1 ft	572221-012
SP #4 @ 2'	S	12-21-17 11:25	2 ft	572221-013
SP #5 @ Surf.	S	12-21-17 11:30	0	572221-014
SP #5 @ 1'	S	12-21-17 11:35	1 ft	572221-015
SP #5 @ 2'	S	12-21-17 11:40	2 ft	572221-016
SP #5 @ 3'	S	12-21-17 11:43	0	572221-017
North #1	S	12-21-17 11:45	1 ft	572221-018
North #2	S	12-21-17 11:50	1 ft	572221-019
East #1	S	12-21-17 11:55	1 ft	572221-020
East #2	S	12-21-17 12:00	1 ft	572221-021
East #3	S	12-21-17 12:10	1 ft	572221-022
West #1	S	12-21-17 12:15	1 ft	572221-023
South #1	S	12-21-17 12:20	1 ft	572221-024
South #2	S	12-21-17 12:30	1 ft	572221-025
SP #2 @ 2'	S	12-21-17 10:50	2 ft	Not Analyzed

CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Lusk Deep Unit A #029H

Project ID:
Work Order Number(s): *572221*

Report Date: *22-JAN-18*
Date Received: *12/27/2017*

Sample receipt non conformances and comments:

1.001 1/16/18 8015 DRO-ORO added to samples 013 & 017 per Joel Lowry. OK to run out of hold time.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3037396 BTEX by SW 8260B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3037445 BTEX by SW 8260B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3037542 BTEX by SW 8260B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 572221

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit A #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea Co. NM

Date Received in Lab: Wed Dec-27-17 05:12 pm
Report Date: 22-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	572221-001		572221-002		572221-003		572221-004		572221-005		572221-007	
	Field Id:	SP #1 @ Surf.		SP #1 @ 1'		SP #1 @ 2'		SP #2 @ Surf.		SP #2 @ 1'		SP #2 @ 4'	
	Depth:	0-		1- ft		2- ft		0-		1- ft		7- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-21-17 10:25		Dec-21-17 10:30		Dec-21-17 10:35		Dec-21-17 10:40		Dec-21-17 10:45		Dec-21-17 10:55	
BTEX by SW 8260B SUB: TX104704215-17-23	***Extracted:***	Jan-02-18 18:00		Jan-02-18 15:45				Jan-02-18 18:00		Jan-02-18 15:45			
	Analyzed:	Jan-02-18 20:01		Jan-02-18 16:51				Jan-02-18 19:44		Jan-02-18 17:32			
	Units/RL:	mg/kg	RL	mg/kg	RL			mg/kg	RL	mg/kg	RL		
Benzene		0.565	0.0996	<0.000998	0.000998			1.70	0.0998	<0.00100	0.00100		
Toluene		14.5	0.0996	<0.000998	0.000998			36.8	0.0998	<0.00100	0.00100		
Ethylbenzene		15.1	0.0996	<0.000998	0.000998			26.8	0.0998	<0.00100	0.00100		
m,p-Xylenes		19.2	0.199	<0.00200	0.00200			33.0	0.200	<0.00200	0.00200		
o-Xylene		8.29	0.0996	<0.000998	0.000998			13.1	0.0998	<0.00100	0.00100		
Total Xylenes		27.49	0.0996	<0.000998	0.000998			46.1	0.0998	<0.001	0.001		
Total BTEX		57.655	0.0996	<0.000998	0.000998			111.4	0.0998	<0.001	0.001		
Chloride by EPA 300 SUB: TX104704215-17-23	***Extracted:***	Jan-03-18 14:00		Jan-03-18 14:00				Jan-03-18 14:00		Jan-03-18 14:00		Jan-03-18 14:00	
	Analyzed:	Jan-03-18 17:17		Jan-03-18 17:50				Jan-03-18 18:02		Jan-03-18 18:13		Jan-03-18 18:46	
	Units/RL:	mg/kg	RL	mg/kg	RL			mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		11900	99.0	57.2	9.78			12600	97.1	3230	47.3	7510	48.0
DRO-ORO By SW8015B SUB: TX104704215-17-23	***Extracted:***	Dec-29-17 10:27		Dec-29-17 10:30		Dec-29-17 10:33		Dec-29-17 10:36		Dec-29-17 10:39			
	Analyzed:	Dec-30-17 10:15		Dec-30-17 00:02		Dec-30-17 00:22		Dec-30-17 12:00		Dec-30-17 00:44			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		541	15.0	<14.9	14.9	<14.9	14.9	846	14.9	<14.9	14.9		
Diesel Range Organics (DRO)		7800 D	150	<14.9	14.9	15.0	14.9	8590 D	149	<14.9	14.9		
Oil Range Hydrocarbons (ORO)		799	15.0	<14.9	14.9	<14.9	14.9	1460 D	149	<14.9	14.9		

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 572221

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit A #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea Co. NM

Date Received in Lab: Wed Dec-27-17 05:12 pm
Report Date: 22-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	572221-008		572221-009		572221-010		572221-011		572221-012		572221-013	
	Field Id:	SP #3 @ Surf.		SP #3 @ 1'		SP #3 @ 2'		SP #4 @ Surf.		SP #4 @ 1'		SP #4 @ 2'	
	Depth:	0-		1- ft		2- ft		0-		1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-21-17 11:00		Dec-21-17 11:05		Dec-21-17 11:10		Dec-21-17 11:15		Dec-21-17 11:20		Dec-21-17 11:25	
BTEX by SW 8260B	***Extracted:***	Jan-02-18 18:00						Jan-02-18 18:00		Jan-02-18 18:00		Jan-02-18 18:00	
SUB: TX104704215-17-23	***Analyzed:***	Jan-02-18 21:07						Jan-02-18 20:17		Jan-02-18 19:11		Jan-02-18 23:02	
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.00249	0.000990					17.0	0.0994	<0.0248	0.0248	<0.000990	0.000990
Toluene		0.0392	0.000990					301 D	0.994	58.1 D	0.198	<0.000990	0.000990
Ethylbenzene		0.0105	0.000990					188 D	0.994	73.9 D	0.198	<0.000990	0.000990
m,p-Xylenes		0.0105	0.00198					225 D	1.99	98.9 D	0.396	<0.00198	0.00198
o-Xylene		0.00487	0.000990					93.3 D	0.994	35.8 D	0.198	<0.000990	0.000990
Total Xylenes		0.01537	0.00099					318.3	0.994	134.7	0.198	<0.00099	0.00099
Total BTEX		0.06756	0.00099					824.3	0.0994	266.7	0.0248	<0.00099	0.00099
Chloride by EPA 300	***Extracted:***	Jan-03-18 14:00		Jan-03-18 14:00		Jan-03-18 14:00		Jan-03-18 14:00		Jan-03-18 14:00			
SUB: TX104704215-17-23	***Analyzed:***	Jan-03-18 18:58		Jan-03-18 19:09		Jan-03-18 19:20		Jan-03-18 19:31		Jan-03-18 19:42			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		13300	99.8	326	9.90	22.3	9.71	36.6	9.58	48.2	9.94		
DRO-ORO By SW8015B	***Extracted:***	Dec-29-17 10:42		Dec-29-17 10:45				Dec-29-17 16:18		Dec-29-17 16:21		Jan-18-18 11:54	
SUB: TX104704215-17-23	***Analyzed:***	Jan-02-18 21:12		Dec-30-17 01:05				Dec-30-17 09:13		Dec-30-17 09:54		Jan-19-18 02:03	
	Units/RL:	mg/kg	RL	mg/kg	RL			mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		38.1	14.9	<14.9	14.9			8210	150	2230	15.0	<14.9 K	14.9
Diesel Range Organics (DRO)		1330	14.9	<14.9	14.9			24700	150	5060	15.0	<14.9 K	14.9
Oil Range Hydrocarbons (ORO)		181	14.9	<14.9	14.9			3670	150	511	15.0	<14.9 K	14.9

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 572221

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit A #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea Co. NM

Date Received in Lab: Wed Dec-27-17 05:12 pm
Report Date: 22-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	572221-014		572221-015		572221-016		572221-017		572221-018		572221-019	
	Field Id:	SP #5 @ Surf.		SP #5 @ 1'		SP #5 @ 2'		SP #5 @ 3'		North #1		North #2	
	Depth:	0-		1- ft		2- ft		0-		1- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-21-17 11:30		Dec-21-17 11:35		Dec-21-17 11:40		Dec-21-17 11:43		Dec-21-17 11:45		Dec-21-17 11:50	
BTEX by SW 8260B SUB: TX104704215-17-23	***Extracted:***	Jan-03-18 17:00		Jan-03-18 17:00		Jan-03-18 17:00		Jan-04-18 13:00		Jan-03-18 14:20		Jan-03-18 14:20	
	Analyzed:	Jan-03-18 21:58		Jan-03-18 22:13		Jan-03-18 21:42		Jan-04-18 14:03		Jan-03-18 15:27		Jan-03-18 15:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		32.5	0.100	25.9	0.0996	0.406	0.100	<0.0250	0.0250	<0.000990	0.000990	<0.00101	0.00101
Toluene		334 D	1.00	291 D	0.996	36.5	0.100	0.0472	0.0250	0.00144	0.000990	<0.00101	0.00101
Ethylbenzene		229 D	1.00	158 D	0.996	54.3 D	0.990	0.399	0.0250	<0.000990	0.000990	<0.00101	0.00101
m,p-Xylenes		290 D	2.00	193 D	1.99	52.4	0.200	1.21	0.0499	<0.00198	0.00198	<0.00202	0.00202
o-Xylene		117 D	1.00	72.4 D	0.996	26.3	0.100	1.00	0.0250	<0.000990	0.000990	<0.00101	0.00101
Total Xylenes		407	1	265.4	0.996	78.7	0.1	2.21	0.025	<0.00099	0.00099	<0.00101	0.00101
Total BTEX		1002.5	0.1	740.3	0.0996	169.906	0.1	2.6562	0.025	0.00144	0.00099	<0.00101	0.00101
Chloride by EPA 300 SUB: TX104704215-17-23	***Extracted:***	Jan-03-18 14:00		Jan-03-18 14:00		Jan-03-18 14:00				Jan-03-18 14:00		Jan-03-18 14:00	
	Analyzed:	Jan-03-18 19:53		Jan-03-18 20:05		Jan-03-18 20:16				Jan-03-18 20:27		Jan-03-18 21:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			mg/kg	RL	mg/kg	RL
Chloride		3800	49.2	5320	48.3	51.8	9.33			251	9.51	249	9.58
DRO-ORO By SW8015B SUB: TX104704215-17-23	***Extracted:***	Dec-29-17 16:24		Dec-29-17 16:27		Jan-03-18 10:36		Jan-18-18 11:57		Dec-29-17 16:33		Dec-29-17 16:36	
	Analyzed:	Dec-30-17 09:34		Dec-30-17 10:35		Jan-09-18 04:39		Jan-19-18 08:40		Dec-30-17 01:27		Dec-30-17 01:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		8780	150	7030 D	149	2160	15.0	96.6 K	14.9	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		17100	150	9150 D	149	4680	15.0	750 K	14.9	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		2710	150	921	14.9	565	15.0	108 K	14.9	<15.0	15.0	<15.0	15.0

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 572221

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit A #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea Co. NM

Date Received in Lab: Wed Dec-27-17 05:12 pm
Report Date: 22-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	572221-020		572221-021		572221-022		572221-023		572221-024		572221-025	
	Field Id:	East #1		East #2		East #3		West #1		South #1		South #2	
	Depth:	1- ft		1- ft		1- ft		1- ft		1- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-21-17 11:55		Dec-21-17 12:00		Dec-21-17 12:10		Dec-21-17 12:15		Dec-21-17 12:20		Dec-21-17 12:30	
BTEX by SW 8260B SUB: TX104704215-17-23	***Extracted:***	Jan-03-18 14:20		Jan-03-18 14:20		Jan-03-18 17:00		Jan-03-18 17:00		Jan-04-18 15:00		Jan-03-18 17:00	
	Analyzed:	Jan-03-18 16:01		Jan-03-18 16:21		Jan-03-18 18:48		Jan-03-18 19:04		Jan-04-18 16:31		Jan-03-18 19:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00101	0.00101	<0.000996	0.000996	<0.000994	0.000994	<0.000994	0.000994	<0.000998	0.000998	<0.00101	0.00101
Toluene		<0.00101	0.00101	<0.000996	0.000996	<0.000994	0.000994	0.00147	0.000994	<0.000998	0.000998	<0.00101	0.00101
Ethylbenzene		<0.00101	0.00101	<0.000996	0.000996	<0.000994	0.000994	<0.000994	0.000994	<0.000998	0.000998	<0.00101	0.00101
m,p-Xylenes		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
o-Xylene		<0.00101	0.00101	<0.000996	0.000996	<0.000994	0.000994	<0.000994	0.000994	<0.000998	0.000998	<0.00101	0.00101
Total Xylenes		<0.00101	0.00101	<0.000996	0.000996	<0.000994	0.000994	<0.000994	0.000994	<0.000998	0.000998	<0.00101	0.00101
Total BTEX		<0.00101	0.00101	<0.000996	0.000996	<0.000994	0.000994	0.00147	0.000994	<0.000998	0.000998	<0.00101	0.00101
Chloride by EPA 300 SUB: TX104704215-17-23	***Extracted:***	Jan-03-18 14:00		Jan-03-18 14:00		Jan-03-18 14:00		Jan-03-18 14:00		Jan-03-18 14:00		Jan-03-18 14:00	
	Analyzed:	Jan-03-18 21:34		Jan-03-18 21:45		Jan-03-18 21:56		Jan-03-18 22:08		Jan-03-18 23:15		Jan-03-18 23:26	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		119	9.98	<9.71	9.71	<9.78	9.78	270	9.90	743	9.71	<9.71	9.71
DRO-ORO By SW8015B SUB: TX104704215-17-23	***Extracted:***	Dec-29-17 16:39		Dec-29-17 16:42		Dec-29-17 16:45		Dec-29-17 16:48		Dec-29-17 16:51		Jan-03-18 10:39	
	Analyzed:	Dec-30-17 02:09		Dec-30-17 02:30		Dec-30-17 03:55		Dec-30-17 04:15		Dec-30-17 04:37		Jan-08-18 12:12	
	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	<15.0	15.0	<15.0	15.0	<14.9	14.9
Diesel Range Organics (DRO)		<15.0	15.0	17.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

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

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY
Houston - Dallas - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037271 **Sample:** 572221-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 00:02

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.7	99.2	78	70-135	
o-Terphenyl	40.6	49.6	82	70-135	

Lab Batch #: 3037271 **Sample:** 572221-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 00:22

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.9	99.3	78	70-135	
o-Terphenyl	43.6	49.7	88	70-135	

Lab Batch #: 3037271 **Sample:** 572221-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 00:44

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.2	99.0	85	70-135	
o-Terphenyl	45.4	49.5	92	70-135	

Lab Batch #: 3037271 **Sample:** 572221-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 01:05

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.2	99.1	76	70-135	
o-Terphenyl	40.3	49.6	81	70-135	

Lab Batch #: 3037298 **Sample:** 572221-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 01:27

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.2	100	74	70-135	
o-Terphenyl	38.0	50.0	76	70-135	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037298 **Sample:** 572221-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 01:48

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.5	100	82	70-135	
o-Terphenyl	43.8	50.0	88	70-135	

Lab Batch #: 3037298 **Sample:** 572221-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 02:09

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.5	100	83	70-135	
o-Terphenyl	48.3	50.0	97	70-135	

Lab Batch #: 3037298 **Sample:** 572221-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 02:30

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.4	100	77	70-135	
o-Terphenyl	42.7	50.0	85	70-135	

Lab Batch #: 3037298 **Sample:** 572221-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 03:55

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.8	100	81	70-135	
o-Terphenyl	41.9	50.0	84	70-135	

Lab Batch #: 3037298 **Sample:** 572221-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 04:15

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.7	100	84	70-135	
o-Terphenyl	47.1	50.0	94	70-135	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037298 **Sample:** 572221-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 04:37

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.8	100	82	70-135	
o-Terphenyl	43.7	50.0	87	70-135	

Lab Batch #: 3037298 **Sample:** 572221-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 09:13

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	42.0	50.0	84	70-135	

Lab Batch #: 3037298 **Sample:** 572221-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 09:34

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	57.7	50.0	115	70-135	

Lab Batch #: 3037298 **Sample:** 572221-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 09:54

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.4	100	82	70-135	
o-Terphenyl	52.0	50.0	104	70-135	

Lab Batch #: 3037271 **Sample:** 572221-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 10:15

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.1	99.8	91	70-135	
o-Terphenyl	57.1	49.9	114	70-135	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037298 **Sample:** 572221-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 10:35

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.6	99.6	72	70-135	
o-Terphenyl	59.5	49.8	119	70-135	

Lab Batch #: 3037271 **Sample:** 572221-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/30/17 12:00

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.5	99.6	88	70-135	
o-Terphenyl	58.6	49.8	118	70-135	

Lab Batch #: 3037321 **Sample:** 572221-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 16:51

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0513	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0476	0.0500	95	80-120	
Toluene-D8	0.0500	0.0500	100	73-132	

Lab Batch #: 3037321 **Sample:** 572221-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 17:32

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0524	0.0500	105	74-126	
1,2-Dichloroethane-D4	0.0507	0.0500	101	80-120	
Toluene-D8	0.0490	0.0500	98	73-132	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037321 **Sample:** 572221-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 19:11

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0520	0.0500	104	80-120	
Toluene-D8	0.0583	0.0500	117	73-132	

Lab Batch #: 3037321 **Sample:** 572221-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 19:44

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0449	0.0500	90	74-126	
1,2-Dichloroethane-D4	0.0452	0.0500	90	80-120	
Toluene-D8	0.0534	0.0500	107	73-132	

Lab Batch #: 3037321 **Sample:** 572221-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 20:01

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0454	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0436	0.0500	87	80-120	
Toluene-D8	0.0517	0.0500	103	73-132	

Lab Batch #: 3037321 **Sample:** 572221-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 20:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0453	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0481	0.0500	96	80-120	
Toluene-D8	0.0555	0.0500	111	73-132	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037321 **Sample:** 572221-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 21:07

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0497	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0478	0.0500	96	80-120	
Toluene-D8	0.0520	0.0500	104	73-132	

Lab Batch #: 3037271 **Sample:** 572221-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 21:12

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.0	99.5	89	70-135	
o-Terphenyl	45.8	49.8	92	70-135	

Lab Batch #: 3037321 **Sample:** 572221-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 23:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0515	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0459	0.0500	92	80-120	
Toluene-D8	0.0520	0.0500	104	73-132	

Lab Batch #: 3037271 **Sample:** 572221-001 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 23:57

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.1	99.8	80	70-135	
o-Terphenyl	44.2	49.9	89	70-135	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037298 **Sample:** 572221-015 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 00:18

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.9	99.6	72	70-135	
o-Terphenyl	47.1	49.8	95	70-135	

Lab Batch #: 3037271 **Sample:** 572221-004 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 00:38

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.0	99.6	85	70-135	
o-Terphenyl	48.0	49.8	96	70-135	

Lab Batch #: 3037396 **Sample:** 572221-012 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 13:04

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0447	0.0500	89	80-120	
Toluene-D8	0.0565	0.0500	113	73-132	

Lab Batch #: 3037396 **Sample:** 572221-011 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 13:21

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0465	0.0500	93	74-126	
1,2-Dichloroethane-D4	0.0421	0.0500	84	80-120	
Toluene-D8	0.0502	0.0500	100	73-132	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037396 **Sample:** 572221-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 15:27

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0516	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0496	0.0500	99	80-120	
Toluene-D8	0.0509	0.0500	102	73-132	

Lab Batch #: 3037396 **Sample:** 572221-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 15:44

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0527	0.0500	105	74-126	
1,2-Dichloroethane-D4	0.0552	0.0500	110	80-120	
Toluene-D8	0.0501	0.0500	100	73-132	

Lab Batch #: 3037396 **Sample:** 572221-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 16:01

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0520	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0508	0.0500	102	80-120	
Toluene-D8	0.0502	0.0500	100	73-132	

Lab Batch #: 3037396 **Sample:** 572221-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 16:21

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0523	0.0500	105	74-126	
1,2-Dichloroethane-D4	0.0475	0.0500	95	80-120	
Toluene-D8	0.0508	0.0500	102	73-132	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037445 **Sample:** 572221-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 18:48

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0510	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0498	0.0500	100	80-120	
Toluene-D8	0.0515	0.0500	103	73-132	

Lab Batch #: 3037445 **Sample:** 572221-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 19:04

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0509	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0476	0.0500	95	80-120	
Toluene-D8	0.0523	0.0500	105	73-132	

Lab Batch #: 3037445 **Sample:** 572221-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 19:35

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0522	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0457	0.0500	91	80-120	
Toluene-D8	0.0510	0.0500	102	73-132	

Lab Batch #: 3037445 **Sample:** 572221-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 21:42

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0495	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0475	0.0500	95	80-120	
Toluene-D8	0.0449	0.0500	90	73-132	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037445 **Sample:** 572221-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 21:58

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0456	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0443	0.0500	89	80-120	
Toluene-D8	0.0448	0.0500	90	73-132	

Lab Batch #: 3037445 **Sample:** 572221-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 22:13

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0478	0.0500	96	74-126	
1,2-Dichloroethane-D4	0.0454	0.0500	91	80-120	
Toluene-D8	0.0496	0.0500	99	73-132	

Lab Batch #: 3037542 **Sample:** 572221-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/04/18 14:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0546	0.0500	109	74-126	
1,2-Dichloroethane-D4	0.0539	0.0500	108	80-120	
Toluene-D8	0.0482	0.0500	96	73-132	

Lab Batch #: 3037542 **Sample:** 572221-014 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/04/18 15:16

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0497	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0467	0.0500	93	80-120	
Toluene-D8	0.0482	0.0500	96	73-132	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037542 **Sample:** 572221-016 / DL **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/04/18 15:54

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0519	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0517	0.0500	103	80-120	
Toluene-D8	0.0449	0.0500	90	73-132	

Lab Batch #: 3037542 **Sample:** 572221-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/04/18 16:31

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0566	0.0500	113	74-126	
1,2-Dichloroethane-D4	0.0560	0.0500	112	80-120	
Toluene-D8	0.0397	0.0500	79	73-132	

Lab Batch #: 3037397 **Sample:** 572221-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/08/18 12:12

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.1	99.6	74	70-135	
o-Terphenyl	35.4	49.8	71	70-135	

Lab Batch #: 3037397 **Sample:** 572221-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/09/18 04:39

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.9	104	70-135	
o-Terphenyl	43.8	50.0	88	70-135	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3038649 **Sample:** 572221-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/19/18 02:03

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	72.1	99.2	73	70-135	
o-Terphenyl	38.1	49.6	77	70-135	

Lab Batch #: 3038649 **Sample:** 572221-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/19/18 08:40

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.6	99.6	74	70-135	
o-Terphenyl	36.6	49.8	73	70-135	

Lab Batch #: 3037271 **Sample:** 7636744-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/29/17 12:52

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	72.6	100	73	70-135	
o-Terphenyl	39.9	50.0	80	70-135	

Lab Batch #: 3037298 **Sample:** 7636802-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/29/17 17:03

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.6	100	79	70-135	
o-Terphenyl	42.9	50.0	86	70-135	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037321 **Sample:** 7636872-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/02/18 15:37

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0516	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0465	0.0500	93	80-120	
Toluene-D8	0.0482	0.0500	96	73-132	

Lab Batch #: 3037397 **Sample:** 7636876-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 11:56

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	100	99	70-135	
o-Terphenyl	56.7	50.0	113	70-135	

Lab Batch #: 3037396 **Sample:** 7636943-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 12:09

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0509	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0482	0.0500	96	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	

Lab Batch #: 3037445 **Sample:** 7636978-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 18:33

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0489	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0467	0.0500	93	80-120	
Toluene-D8	0.0558	0.0500	112	73-132	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037542 **Sample:** 7637024-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/04/18 12:32

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0520	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0496	0.0500	99	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	

Lab Batch #: 3038649 **Sample:** 7637669-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/18/18 17:18

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	70.2	100	70	70-135	
o-Terphenyl	37.7	50.0	75	70-135	

Lab Batch #: 3037271 **Sample:** 7636744-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/29/17 12:10

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.5	100	83	70-135	
o-Terphenyl	43.5	50.0	87	70-135	

Lab Batch #: 3037298 **Sample:** 7636802-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/29/17 17:23

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.8	100	91	70-135	
o-Terphenyl	47.0	50.0	94	70-135	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037321 **Sample:** 7636872-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/02/18 13:48

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0479	0.0500	96	74-126	
1,2-Dichloroethane-D4	0.0474	0.0500	95	80-120	
Toluene-D8	0.0540	0.0500	108	73-132	

Lab Batch #: 3037396 **Sample:** 7636943-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 09:39

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0502	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0538	0.0500	108	80-120	
Toluene-D8	0.0504	0.0500	101	73-132	

Lab Batch #: 3037397 **Sample:** 7636876-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 11:15

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	62.6	50.0	125	70-135	

Lab Batch #: 3037445 **Sample:** 7636978-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 16:25

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0499	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0503	0.0500	101	80-120	
Toluene-D8	0.0520	0.0500	104	73-132	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037542 **Sample:** 7637024-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/04/18 10:07

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0515	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0494	0.0500	99	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	

Lab Batch #: 3038649 **Sample:** 7637669-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/18/18 16:15

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.6	100	82	70-135	
o-Terphenyl	43.4	50.0	87	70-135	

Lab Batch #: 3037271 **Sample:** 7636744-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/29/17 12:31

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.6	100	90	70-135	
o-Terphenyl	44.4	50.0	89	70-135	

Lab Batch #: 3037298 **Sample:** 7636802-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/29/17 17:44

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.0	100	85	70-135	
o-Terphenyl	42.9	50.0	86	70-135	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037321 **Sample:** 7636872-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/02/18 13:20

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0482	0.0500	96	74-126	
1,2-Dichloroethane-D4	0.0479	0.0500	96	80-120	
Toluene-D8	0.0536	0.0500	107	73-132	

Lab Batch #: 3037396 **Sample:** 7636943-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 10:56

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0469	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0470	0.0500	94	80-120	
Toluene-D8	0.0545	0.0500	109	73-132	

Lab Batch #: 3037397 **Sample:** 7636876-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 11:36

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	52.9	50.0	106	70-135	

Lab Batch #: 3037445 **Sample:** 7636978-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/03/18 17:29

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0521	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0558	0.0500	112	80-120	
Toluene-D8	0.0454	0.0500	91	73-132	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037542 **Sample:** 7637024-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/04/18 11:28

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0498	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0503	0.0500	101	80-120	
Toluene-D8	0.0520	0.0500	104	73-132	

Lab Batch #: 3038649 **Sample:** 7637669-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/18/18 16:36

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.2	100	76	70-135	
o-Terphenyl	39.7	50.0	79	70-135	

Lab Batch #: 3037271 **Sample:** 572194-009 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/29/17 16:22

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	178	199	89	70-135	
o-Terphenyl	88.4	99.5	89	70-135	

Lab Batch #: 3037321 **Sample:** 572190-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 14:05

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0510	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0557	0.0500	111	80-120	
Toluene-D8	0.0513	0.0500	103	73-132	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037396 **Sample:** 572221-007 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 10:23

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0517	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0552	0.0500	110	80-120	
Toluene-D8	0.0508	0.0500	102	73-132	

Lab Batch #: 3037445 **Sample:** 572221-022 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 16:57

SURROGATE RECOVERY STUDY

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

Lab Batch #: 3037542 **Sample:** 572221-024 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/04/18 11:08

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0541	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0563	0.0500	113	80-120	
Toluene-D8	0.0459	0.0500	92	73-132	

Lab Batch #: 3037271 **Sample:** 572194-009 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/29/17 16:42

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	174	198	88	70-135	
o-Terphenyl	90.6	99.0	92	70-135	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit A #029H

Work Orders : 572221,

Project ID:

Lab Batch #: 3037321 **Sample:** 572190-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/02/18 14:21

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0506	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0524	0.0500	105	80-120	
Toluene-D8	0.0538	0.0500	108	73-132	

Lab Batch #: 3037396 **Sample:** 572221-007 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 10:40

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0517	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0558	0.0500	112	80-120	
Toluene-D8	0.0501	0.0500	100	73-132	

Lab Batch #: 3037445 **Sample:** 572221-022 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/03/18 17:13

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0496	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0498	0.0500	100	80-120	
Toluene-D8	0.0537	0.0500	107	73-132	

Lab Batch #: 3037542 **Sample:** 572221-024 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/04/18 16:49

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0538	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0576	0.0500	115	80-120	
Toluene-D8	0.0460	0.0500	92	73-132	

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

BS / BSD Recoveries

Project Name: Lusk Deep Unit A #029H

Work Order #: 572221 **Project ID:**

Analyst: JTR **Date Prepared:** 01/02/2018 **Date Analyzed:** 01/02/2018

Lab Batch ID: 3037321 **Sample:** 7636872-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0969	97	0.100	0.0982	98	1	62-132	25	
Toluene	<0.00100	0.100	0.106	106	0.100	0.104	104	2	66-124	25	
Ethylbenzene	<0.00100	0.100	0.109	109	0.100	0.104	104	5	71-134	25	
m,p-Xylenes	<0.00200	0.200	0.208	104	0.200	0.208	104	0	69-128	25	
o-Xylene	<0.00100	0.100	0.107	107	0.100	0.108	108	1	72-131	25	

Analyst: JTR **Date Prepared:** 01/03/2018 **Date Analyzed:** 01/03/2018

Lab Batch ID: 3037396 **Sample:** 7636943-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0965	97	0.100	0.102	102	6	62-132	25	
Toluene	<0.00100	0.100	0.0983	98	0.100	0.110	110	11	66-124	25	
Ethylbenzene	<0.00100	0.100	0.0981	98	0.100	0.109	109	11	71-134	25	
m,p-Xylenes	<0.00200	0.200	0.198	99	0.200	0.215	108	8	69-128	25	
o-Xylene	<0.00100	0.100	0.101	101	0.100	0.111	111	9	72-131	25	

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

BS / BSD Recoveries

Project Name: Lusk Deep Unit A #029H

Work Order #: 572221 **Project ID:**

Analyst: JTR **Date Prepared:** 01/03/2018 **Date Analyzed:** 01/03/2018

Lab Batch ID: 3037445 **Sample:** 7636978-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0967	97	0.100	0.115	115	17	62-132	25	
Toluene	<0.00100	0.100	0.103	103	0.100	0.0967	97	6	66-124	25	
Ethylbenzene	<0.00100	0.100	0.0971	97	0.100	0.104	104	7	71-134	25	
m,p-Xylenes	<0.00200	0.200	0.199	100	0.200	0.214	107	7	69-128	25	
o-Xylene	<0.00100	0.100	0.0979	98	0.100	0.103	103	5	72-131	25	

Analyst: JTR **Date Prepared:** 01/04/2018 **Date Analyzed:** 01/04/2018

Lab Batch ID: 3037542 **Sample:** 7637024-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.102	102	0.100	0.114	114	11	62-132	25	
Toluene	<0.00100	0.100	0.0920	92	0.100	0.0987	99	7	66-124	25	
Ethylbenzene	<0.00100	0.100	0.0871	87	0.100	0.0998	100	14	71-134	25	
m,p-Xylenes	<0.00200	0.200	0.181	91	0.200	0.204	102	12	69-128	25	
o-Xylene	<0.00100	0.100	0.0869	87	0.100	0.101	101	15	72-131	25	

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

BS / BSD Recoveries

Project Name: Lusk Deep Unit A #029H

Work Order #: 572221 **Project ID:**

Analyst: DHE **Date Prepared:** 01/03/2018 **Date Analyzed:** 01/03/2018

Lab Batch ID: 3037377 **Sample:** 7636896-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<1.00	10.0	9.75	98	10.0	9.69	97	1	80-120	20	

Analyst: DHE **Date Prepared:** 01/03/2018 **Date Analyzed:** 01/03/2018

Lab Batch ID: 3037378 **Sample:** 7636897-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<1.00	10.0	9.77	98	10.0	9.75	98	0	80-120	20	

Analyst: ARL **Date Prepared:** 12/29/2017 **Date Analyzed:** 12/29/2017

Lab Batch ID: 3037271 **Sample:** 7636744-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	857	86	1000	846	85	1	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	917	92	1000	918	92	0	70-135	35	

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

BS / BSD Recoveries

Project Name: Lusk Deep Unit A #029H

Work Order #: 572221 **Project ID:**

Analyst: ISU **Date Prepared:** 12/29/2017 **Date Analyzed:** 12/29/2017

Lab Batch ID: 3037298 **Sample:** 7636802-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	921	92	1000	859	86	7	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1010	101	1000	950	95	6	70-135	35	

Analyst: ARL **Date Prepared:** 01/03/2018 **Date Analyzed:** 01/03/2018

Lab Batch ID: 3037397 **Sample:** 7636876-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1000	100	1000	904	90	10	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1050	105	1000	1010	101	4	70-135	35	

Analyst: ARL **Date Prepared:** 01/18/2018 **Date Analyzed:** 01/18/2018

Lab Batch ID: 3038649 **Sample:** 7637669-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	986	99	1000	931	93	6	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1130	113	1000	1070	107	5	70-135	35	

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

Form 3 - MS / MSD Recoveries

Project Name: Lusk Deep Unit A #029H

Work Order # : 572221 **Project ID:**

Lab Batch ID: 3037321 **QC- Sample ID:** 572190-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/02/2018 **Date Prepared:** 01/02/2018 **Analyst:** JTR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000998	0.0998	0.0797	80	0.0998	0.0882	88	10	62-132	25	
Toluene	<0.000998	0.0998	0.0850	85	0.0998	0.0948	95	11	66-124	25	
Ethylbenzene	<0.000998	0.0998	0.0824	83	0.0998	0.0928	93	12	71-134	25	
m,p-Xylenes	<0.00200	0.200	0.165	83	0.200	0.182	91	10	69-128	25	
o-Xylene	<0.000998	0.0998	0.0857	86	0.0998	0.0975	98	13	72-131	25	

Lab Batch ID: 3037396 **QC- Sample ID:** 572221-007 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/03/2018 **Date Prepared:** 01/03/2018 **Analyst:** JTR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000998	0.0998	0.0876	88	0.0996	0.0889	89	1	62-132	25	
Toluene	<0.000998	0.0998	0.0922	92	0.0996	0.0926	93	0	66-124	25	
Ethylbenzene	<0.000998	0.0998	0.0890	89	0.0996	0.0900	90	1	71-134	25	
m,p-Xylenes	<0.00200	0.200	0.180	90	0.199	0.180	90	0	69-128	25	
o-Xylene	<0.000998	0.0998	0.0900	90	0.0996	0.0923	93	3	72-131	25	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Lusk Deep Unit A #029H

Work Order # : 572221 **Project ID:**

Lab Batch ID: 3037445 **QC- Sample ID:** 572221-022 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/03/2018 **Date Prepared:** 01/03/2018 **Analyst:** JTR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000998	0.0998	0.102	102	0.0996	0.0924	93	10	62-132	25	
Toluene	<0.000998	0.0998	0.102	102	0.0996	0.104	104	2	66-124	25	
Ethylbenzene	<0.000998	0.0998	0.110	110	0.0996	0.0925	93	17	71-134	25	
m,p-Xylenes	<0.00200	0.200	0.225	113	0.199	0.192	96	16	69-128	25	
o-Xylene	<0.000998	0.0998	0.109	109	0.0996	0.0932	94	16	72-131	25	

Lab Batch ID: 3037542 **QC- Sample ID:** 572221-024 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/04/2018 **Date Prepared:** 01/04/2018 **Analyst:** JTR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000992	0.0992	0.125	126	0.0998	0.129	129	3	62-132	25	
Toluene	<0.000992	0.0992	0.0829	84	0.0998	0.0851	85	3	66-124	25	
Ethylbenzene	<0.000992	0.0992	0.0911	92	0.0998	0.0951	95	4	71-134	25	
m,p-Xylenes	<0.00198	0.198	0.196	99	0.200	0.198	99	1	69-128	25	
o-Xylene	<0.000992	0.0992	0.0984	99	0.0998	0.0992	99	1	72-131	25	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Lusk Deep Unit A #029H

Work Order # : 572221 **Project ID:**

Lab Batch ID: 3037377 **QC- Sample ID:** 572221-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/03/2018 **Date Prepared:** 01/03/2018 **Analyst:** DHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	11900	990	12900	101	990	12900	101	0	80-120	20	

Lab Batch ID: 3037377 **QC- Sample ID:** 572221-018 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/03/2018 **Date Prepared:** 01/03/2018 **Analyst:** DHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	251	95.1	345	99	95.1	346	100	0	80-120	20	

Lab Batch ID: 3037378 **QC- Sample ID:** 572194-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/04/2018 **Date Prepared:** 01/03/2018 **Analyst:** DHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	4620	489	5130	104	489	5100	98	1	80-120	20	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Lusk Deep Unit A #029H

Work Order # : 572221 **Project ID:**

Lab Batch ID: 3037378 **QC- Sample ID:** 572225-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/03/2018 **Date Prepared:** 01/03/2018 **Analyst:** DHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	687	489	1180	101	489	1180	101	0	80-120	20	

Lab Batch ID: 3037271 **QC- Sample ID:** 572194-009 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/29/2017 **Date Prepared:** 12/29/2017 **Analyst:** ARL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<14.9	1990	1590	80	1980	1730	87	8	70-135	35	
Diesel Range Organics (DRO)	<14.9	1990	1910	96	1980	2030	103	6	70-135	35	

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

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

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

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

CHAIN OF CUSTODY

Page 1 Of 3

572221

Xenco Job # 572221

Client / Reporting Information	Project Information
Company Name / Branch: TRC Environmental Corporation	Project Name/Number: Lusk Deep Unit A #029H
Company Address: 2057 Commerce Drive, Midland, TX 79703	Project Location: Lea Co, NM
Email: jlowry@trcsolutions.com Phone No: 432-466-4450	Invoice To: COG Operating C/O Becky Haskell
Project Contact: Joel Lowry	Invoice:
Samplers's Name Joel Lowry	

Analytical Information

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	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	SP #1 @ Surf.	0	12/21/2017	10:25	s	1									x	x	x		
2	SP #1 @ 1'	1	12/21/2017	10:30	s	1									x	x			
3	SP #1 @ 2'	2	12/21/2017	10:35	s	1									x				
4	SP #2 @ Surf.	0	12/21/2017	10:40	s	1									x	x	x		
5	SP #2 @ 1'	1	12/21/2017	10:45	s	1									x	x			
6	SP #2 @ 2'	2	12/21/2017	10:50	s	1												x	
7	SP #2 @ 4'	4	12/21/2017	10:55	s	1										x			
8	SP #3 @ Surf.	0	12/21/2017	11:00	s	1									x	x	x		
9	SP #3 @ 1'	1	12/21/2017	11:05	s	1									x	x			
10	SP #3 @ 2'	2	12/21/2017	11:10	s	1										x			

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

- [ ] 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:

jlowry@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com

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	Joel Lowry	12/22 3:05	1	2		2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time: 12/27 5:14	Received By: 5	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. 1.2/1.1 / Thermo. Corr. Factor IR 3 +0.1

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

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

CHAIN OF CUSTODY

572224 BW

21

221

Xenco Job # 572224

Client / Reporting Information	Project Information
Company Name / Branch: TRC Environmental Corporation	Project Name/Number: ~~Phillips State #004~~ Lusk Deep Unit A #029H (per Joel 12/28/17)
Company Address: 2057 Commerce Drive, Midland, TX 79703	Project Location: Lea Co, NM
Email: jlowry@trcsolutions.com Phone No: 432-466-4450	Invoice To: COG Operating C/O Becky Haskell
Project Contact: Joel Lowry	Invoice:
Samplers's Name Joel Lowry	

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 8015 M Ext	Chloride E 300	BTEX 8021B	hold	Field Comments
1	SP #4 @ Surf.	0	12/21/2017	11:15	s	1									x	x	x		
2	SP #4 @ 1'	1	12/21/2017	11:20	s	1									x	x			
3	SP #4 @ 2'	2	12/21/2017	11:25	s	1												x	
4	SP #5 @ Surf.	0	12/21/2017	11:30	s	1									x	x	x		
5	SP #5 @ 1'	1	12/21/2017	11:35	s	1									x	x			
6	SP #5 @ 3'	3	12/21/2017	11:40	s	1												x	
7	North #1	1	12/21/2017	11:45	s	1									x	x	x		
8	Norh #2	1	12/21/2017	11:50	s	1									x	x	x		
9	East #1	1	12/21/2017	11:55	s	1									x	x	x		
10	East #2	1	12/21/2017	12:00	s	1									x	x	x		

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

☐ Same Day TAT	☐ 5 Day TAT	☐ Level II Std QC	☐ Level IV (Full Data Pkg /raw data)
☐ ~~Next Day EMERGENCY~~	☐ 7 Day TAT	☐ Level III Std QC+ Forms	☐ TRRP Level IV
☐ 2 Day EMERGENCY	☒ Contract TAT	☐ Level 3 (CLP Forms)	☐ UST / RG -411
☐ 3 Day EMERGENCY		☐ TRRP Checklist	

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

Data Deliverable Information

Notes:

jlowry@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com

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	Joel Lowry	12/27 3:06	1	2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time: 12/27 5:15	Received By: 5 Brenda Ward	Custody Seal #	Preserved where applicable	On Ice ☑ Cooler Temp. IR-3 Thermo. Corr. Factor 1.2/1.1 -0.1
				12/27/17 17:12	☐	

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

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

CHAIN OF CUSTODY

572224 (2W) 21

3 3

Xenco Job # 572221

Client / Reporting Information	Project Information
Company Name / Branch: TRC Environmental Corporation	Project Name/Number: ~~Phillips State #001~~ Lusk Deep Unit A #029H (Jen Joel 12/28/17)
Company Address: 2057 Commerce Drive, Midland, TX 79703	Project Location: Lea Co, NM
Email: jlowry@trcsolutions.com Phone No: 432-466-4450	Invoice To: COG Operating C/O Becky Haskell
Project Contact: Joel Lowry	Invoice:
Samplers's Name Joel Lowry	

Analytical Information

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	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Field Comments
1	East #3	1	12/21/2017	12:10	s	1									x	x	x	
2	West #1	1	12/21/2017	12:15	s	1									x	x	x	
3	South #1	1	12/21/2017	12:20	s	1									x	x	x	
4	South #2	1	12/21/2017	12:30	s	1									x	x	x	
5	SP #5 @ 2'	1	12/21/17															
6																		
7																		
8																		
9																		
10																		

Data Deliverable Information

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

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

Notes:

jlowry@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com

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		12/22 3:04	1	2		2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
6	Relinquished by:	Date Time: 12/27 5:15	Received By: 5	Custody Seal # 12/27/17	Preserved where applicable	On Ice ✓ Cooler Temp. IR-3 1.2|1.1 Thermo. Corr. Factor -0.1

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.

CHAIN OF CUSTODY

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

572221

Xenco Job # 572221

Client / Reporting Information	Project Information
Company Name / Branch: TRC Environmental Corporation	**Project Name/Number:** Lusk Deep Unit A #029H
Company Address: 2057 Commerce Drive, Midland, TX 79703	**Project Location:** Lea Co, NM
Email: jlowry@trcsolutions.com **Phone No:** 432-466-4450	**Invoice To:** COG Operating C/O Becky Haskell
Project Contact: Joel Lowry	**Invoice:**
Samplers's Name Joel Lowry	

Analytical Information

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	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	SP #1 @ Surf.	0	12/21/2017	10:25	s	1									X	X	X		
2	SP #1 @ 1'	1	12/21/2017	10:30	s	1									X	X			
3	SP #1 @ 2'	2	12/21/2017	10:35	s	1									X				
4	SP #2 @ Surf.	0	12/21/2017	10:40	s	1									X	X	X		
5	SP #2 @ 1'	1	12/21/2017	10:45	s	1									X	X			
6	SP #2 @ 2'	2	12/21/2017	10:50	s	1												X	
7	SP #2 @ 4'	4	12/21/2017	10:55	s	1										X			
8	SP #3 @ Surf.	0	12/21/2017	11:00	s	1									X	X	X		
9	SP #3 @ 1'	1	12/21/2017	11:05	s	1									X	X			
10	SP #3 @ 2'	2	12/21/2017	11:10	s	1										X			

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☐ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ 7 Day TAT
- ☐ 2 Day EMERGENCY
- ☒ Contract TAT
- ☐ 3 Day EMERGENCY

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

Data Deliverable Information

- ☐ 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:

jlowry@trcsolutions.com
~~maskell@concho.com~~
kblackburn@trcsolutions.com
dneel2@concho.com
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	Joel Lowry	12/22 3:05				
2						
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time: 12/27 5:14	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
				12/27/12 17:12		1.2 / 1.1 / IR 3 +0.1

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.

CHAIN OF CUSTODY

Page 1 of 2 3

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

572224BW 221

21

Xenco Job # 572224

Per Joel 12/28/17

Client / Reporting Information	Project Information
Company Name / Branch: TRC Environmental Corporation	Project Name/Number: ~~Phillips State #004~~ Lusk Deep Unit A #029H
Company Address: 2057 Commerce Drive, Midland, TX 79703	Project Location: Lea Co, NM
Email: jlowry@trcsolutions.com Phone No: 432-466-4450	Invoice To: COG Operating C/O Becky Haskell
Project Contact: Joel Lowry	Invoice:
Samplers's Name Joel Lowry	

Analytical Information

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	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	hold	Field Comments
1	SP #4 @ Surf.	0	12/21/2017	11:15	s	1									x	x	x		
2	SP #4 @ 1'	1	12/21/2017	11:20	s	1									x	x			
3	SP #4 @ 2'	2	12/21/2017	11:25	s	1												x	
4	SP #5 @ Surf.	0	12/21/2017	11:30	s	1									x	x	x		
5	SP #5 @ 1' SP#5 — 2'	1	12/21/2017	11:35	s	1									x	x			
6	SP #5 @ 3'	3	12/21/2017	11:40	s	1												x	
7	North #1	1	12/21/2017	11:45	s	1									x	x	x		
8	Norh #2	1	12/21/2017	11:50	s	1									x	x	x		
9	East #1	1	12/21/2017	11:55	s	1									x	x	x		
10	East #2	1	12/21/2017	12:00	s	1									x	x	x		

Data Deliverable Information

- ☐ Same Day TAT
- ☐ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ ~~7 Day TAT~~
- ☐ 2 Day EMERGENCY
- ☒ Contract TAT
- ☐ 3 Day EMERGENCY
- TAT Starts Day received by Lab, if received by 5:00 pm
- ☐ 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:

jlowry@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com
FED-EX / UPS: Tracking #

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

Relinquished by Sampler: 1	Date Time: 12/27 3:06	Received By:	Relinquished By: 2	Date Time:	Received By: 2
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time: 12/27 5:15	Received By: 5 Brenda Ward	Custody Seal # 12/27/17 17:12	Preserved where applicable ☐	On Ice ☑ Cooler Temp. FR 3 Thermo. Corr. Factor 1.2 1.1 -0.1

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.

CHAIN OF CUSTODY

XENCO LABORATORIES

Setting the Standard since 1990

Page 1 Of 2 3 3

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

572224 (SW) 21

Xenco Job # 572221

Client / Reporting Information	Project Information
Company Name / Branch: TRC Environmental Corporation	Project Name/Number: ~~Phillips State #001~~ Per Joel 12/28/17 Lusk Deep Unit A #029H
Company Address: 2057 Commerce Drive, Midland, TX 79703	Project Location: Lea Co, NM
Email: jlowry@trcsolutions.com Phone No: 432-466-4450	Invoice To: COG Operating C/O Becky Haskell
Project Contact: Joel Lowry	Invoice:
Samplers's Name Joel Lowry	

Analytical Information

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	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Field Comments
1	East #3	1	12/21/2017	12:10	s	1									x	x	x	
2	West #1	1	12/21/2017	12:15	s	1									x	x	x	
3	South #1	1	12/21/2017	12:20	s	1									x	x	x	
4	South #2	1	12/21/2017	12:30	s	1									x	x	x	
5	SP #5 @ 2'	1	12/21/17															
6																		
7																		
8																		
9																		
10																		

Data Deliverable Information

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

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

Notes:
jlowry@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com
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	12/22 3:04	1	2		2
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time: 12/27 5:15	Received By: 5	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
			12/27/17		✓ IR-3 1.2 1.1 -0.1

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.

Inter-Office Shipment

IOS Number **1053900**

Date/Time: 12/28/17 17:13
Lab# From: **Lubbock**
Lab# To: **Houston**

Created by: Brenda Ward
Delivery Priority:
Air Bill No.: 771105606137

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
572221-001	S	SP #1 @ Surf.	12/21/17 10:25	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-001	S	SP #1 @ Surf.	12/21/17 10:25	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-001	S	SP #1 @ Surf.	12/21/17 10:25	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-001	S	SP #1 @ Surf.	12/21/17 10:25	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-002	S	SP #1 @ 1'	12/21/17 10:30	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-002	S	SP #1 @ 1'	12/21/17 10:30	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-002	S	SP #1 @ 1'	12/21/17 10:30	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-003	S	SP #1 @ 2'	12/21/17 10:35	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-003	S	SP #1 @ 2'	12/21/17 10:35	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-004	S	SP #1 @ Surf.	12/21/17 10:40	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-004	S	SP #1 @ Surf.	12/21/17 10:40	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-004	S	SP #1 @ Surf.	12/21/17 10:40	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-004	S	SP #1 @ Surf.	12/21/17 10:40	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-005	S	SP #2 @ 1'	12/21/17 10:45	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-005	S	SP #2 @ 1'	12/21/17 10:45	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-005	S	SP #2 @ 1'	12/21/17 10:45	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-006	S	SP #2 @ 2'	12/21/17 10:50	SW8015GRO	TPH GRO by EPA 8015 Mod.	HOLD	01/04/18	KEB	PHCG	
572221-006	S	SP #2 @ 2'	12/21/17 10:50	SW8015B_DROORO	DRO-ORO By SW8015B	HOLD	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-006	S	SP #2 @ 2'	12/21/17 10:50	E300_CL	Chloride by EPA 300	HOLD	01/18/18	KEB	CL	
572221-007	S	SP #2 @ 4'	12/21/17 10:55	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-008	S	SP #3 @ Surf.	12/21/17 11:00	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-008	S	SP #3 @ Surf.	12/21/17 11:00	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-008	S	SP #3 @ Surf.	12/21/17 11:00	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-008	S	SP #3 @ Surf.	12/21/17 11:00	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-009	S	SP #3 @ 1'	12/21/17 11:05	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	

Inter-Office Shipment

IOS Number **1053900**

Date/Time: 12/28/17 17:13
Lab# From: **Lubbock**
Lab# To: **Houston**

Created by: Brenda Ward
Delivery Priority:
Air Bill No.: 771105606137

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
572221-009	S	SP #3 @ 1'	12/21/17 11:05	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-009	S	SP #3 @ 1'	12/21/17 11:05	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-010	S	SP #3 @ 2'	12/21/17 11:10	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-011	S	SP #4 @ Surf.	12/21/17 11:15	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-011	S	SP #4 @ Surf.	12/21/17 11:15	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-011	S	SP #4 @ Surf.	12/21/17 11:15	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-011	S	SP #4 @ Surf.	12/21/17 11:15	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-012	S	SP #4 @ 1'	12/21/17 11:20	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-012	S	SP #4 @ 1'	12/21/17 11:20	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-012	S	SP #4 @ 1'	12/21/17 11:20	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-013	S	SP #4 @ 2'	12/21/17 11:25	E300_CL	Chloride by EPA 300	HOLD	01/18/18	KEB	CL	
572221-014	S	SP #5 @ Surf.	12/21/17 11:30	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-014	S	SP #5 @ Surf.	12/21/17 11:30	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-014	S	SP #5 @ Surf.	12/21/17 11:30	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-014	S	SP #5 @ Surf.	12/21/17 11:30	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-015	S	SP #5 @ 1'	12/21/17 11:35	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-015	S	SP #5 @ 1'	12/21/17 11:35	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-015	S	SP #5 @ 1'	12/21/17 11:35	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-016	S	SP #5 @ 2'	12/21/17 11:40	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-016	S	SP #5 @ 2'	12/21/17 11:40	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-016	S	SP #5 @ 2'	12/21/17 11:40	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-017	S	SP #5 @ 3'	12/21/17 11:43	E300_CL	Chloride by EPA 300	HOLD	01/18/18	KEB	CL	
572221-018	S	North #1	12/21/17 11:45	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-018	S	North #1	12/21/17 11:45	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-018	S	North #1	12/21/17 11:45	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	

Inter-Office Shipment

IOS Number **1053900**

Date/Time: 12/28/17 17:13
Lab# From: **Lubbock**
Lab# To: **Houston**

Created by: Brenda Ward
Delivery Priority:
Air Bill No.: 771105606137

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
572221-018	S	North #1	12/21/17 11:45	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-019	S	North #2	12/21/17 11:50	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-019	S	North #2	12/21/17 11:50	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-019	S	North #2	12/21/17 11:50	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-019	S	North #2	12/21/17 11:50	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-020	S	East #1	12/21/17 11:55	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-020	S	East #1	12/21/17 11:55	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-020	S	East #1	12/21/17 11:55	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-020	S	East #1	12/21/17 11:55	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-021	S	East #2	12/21/17 12:00	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-021	S	East #2	12/21/17 12:00	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-021	S	East #2	12/21/17 12:00	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-021	S	East #2	12/21/17 12:00	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-022	S	East #3	12/21/17 12:10	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-022	S	East #3	12/21/17 12:10	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-022	S	East #3	12/21/17 12:10	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-022	S	East #3	12/21/17 12:10	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-023	S	West #1	12/21/17 12:15	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-023	S	West #1	12/21/17 12:15	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-023	S	West #1	12/21/17 12:15	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-023	S	West #1	12/21/17 12:15	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-024	S	South #1	12/21/17 12:20	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	
572221-024	S	South #1	12/21/17 12:20	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-024	S	South #1	12/21/17 12:20	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-024	S	South #1	12/21/17 12:20	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	

Inter-Office Shipment

IOS Number **1053900**

Date/Time: 12/28/17 17:13
Lab# From: **Lubbock**
Lab# To: **Houston**

Created by: Brenda Ward
Delivery Priority:
Air Bill No.: 771105606137

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
572221-025	S	South #2	12/21/17 12:30	SW8015B_DROORO	DRO-ORO By SW8015B	01/03/18	01/04/18	KEB	PHCC10C28 PHCC28C35	
572221-025	S	South #2	12/21/17 12:30	SW8021B	BTEX by EPA 8021B	01/03/18	01/04/18	KEB	BR4FBZ BZ BZME EBZ X	
572221-025	S	South #2	12/21/17 12:30	E300_CL	Chloride by EPA 300	01/03/18	01/18/18	KEB	CL	
572221-025	S	South #2	12/21/17 12:30	SW8015GRO	TPH GRO by EPA 8015 Mod.	01/03/18	01/04/18	KEB	PHCG	

Inter Office Shipment or Sample Comments:

Relinquished By: Brenda Ward
Brenda Ward

Date Relinquished: 12/28/2017

Received By: R. C. Vandenberghe
Rene Vandenberghe

Date Received: 12/29/2017 10:00

Cooler Temperature: 3.6

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 1053900

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : hou-068

Sent By: Brenda Ward **Date Sent:** 12/28/2017 05:13 PM

Received By: Rene Vandenberghe **Date Received:** 12/29/2017 10:00 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.6	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: R. C. Vandenberghe Date: 12/29/2017

Rene Vandenberghe

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 12/27/2017 05:12:00 PM

Work Order #: 572221

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

Temperature Measuring device used : IR-3

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.1	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Xenco Houston
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 12/28/2017
Brenda Ward

Checklist reviewed by: Date: 12/28/2017

Analytical Report 580872

for

TRC Solutions, Inc

Project Manager: Joel Lowry

Lusk Deep Unit #029H

16-APR-18

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

16-APR-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **580872**
Lusk Deep Unit #029H
Project Address: Lea, County NM

Joel Lowry:

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) 580872. 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. 580872 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 580872

TRC Solutions, Inc, Midland, TX

Lusk Deep Unit #029H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1 FL-1	S	03-28-18 00:00		580872-001
SP-1 FL-2	S	03-28-18 00:00		580872-002
SP-1 FL-3	S	03-28-18 00:00		580872-003
SP-1 FL-4	S	03-28-18 00:00		580872-004
SP-1 FL-5	S	03-28-18 00:00		580872-005
SP-1 FL-6	S	03-28-18 00:00		580872-006
SP-1 FL-7	S	03-28-18 00:00		580872-007
SP-1B FL-1	S	03-28-18 00:00		580872-008
SP-1B NSW	S	03-28-18 00:00		580872-009
SP-1B ESW	S	03-28-18 00:00		580872-010
SP-1 WSW1	S	03-28-18 00:00		580872-011
SP-1 WSW2	S	03-28-18 00:00		580872-012
SP-2 @ 5'	S	03-28-18 00:00	- 5	580872-013
SP-2 FL @ 6'	S	03-28-18 00:00	- 6 ft	580872-014
SP-2 NWSW	S	03-28-18 00:00		580872-015
SP-2 ESW	S	03-28-18 00:00		580872-016
SP-3 FL-1	S	03-28-18 00:00		580872-017
SP-3 NSW	S	03-28-18 00:00		580872-018
SP-3 ESW	S	03-28-18 00:00		580872-019
SP-3 SSW	S	03-28-18 00:00		580872-020
SP-1b SSW	S	03-28-18 00:00		580872-021
SP-1b WSW	S	03-28-18 00:00		580872-022
SP-1 NSW1	S	03-28-18 00:00		580872-023
SP-1 NSW2	S	03-28-18 00:00		580872-024
SP-1 NSW3	S	03-28-18 00:00		580872-025
SP-1 ESW1	S	03-28-18 00:00		580872-026
SP-1 ESW2	S	03-28-18 00:00		580872-027
SP-1 SSW1	S	03-28-18 00:00		580872-028
SP-1 SSW2	S	03-28-18 00:00		580872-029
SP-1 SSW3	S	03-28-18 00:00		580872-030
SP-3 WSW	S	03-28-18 00:00		580872-031
SP-4 FL-1	S	03-28-18 00:00		580872-032
SP-4 FL-2	S	03-28-18 00:00		580872-033
SP-4 FL-3	S	03-28-18 00:00		580872-034
SP-4 FL-4	S	03-28-18 00:00		580872-035
SP-4 FL-5	S	03-28-18 00:00		580872-036
SP-4 NSW1	S	03-28-18 00:00		580872-037
SP-4 NSW2	S	03-28-18 00:00		580872-038
SP-4 NSW3	S	03-28-18 00:00		580872-039
SP-4 ESW	S	03-28-18 00:00		580872-040
SP-4 ESW2	S	03-28-18 00:00		580872-041
SP-4 SSW1	S	03-28-18 00:00		580872-042
SP-4 SSW2	S	03-28-18 00:00		580872-043

Sample Cross Reference 580872

TRC Solutions, Inc, Midland, TX

Lusk Deep Unit #029H

SP-4 SSW3	S	03-28-18 00:00		580872-044
SP-4 WSW1	S	03-28-18 00:00		580872-045
SP-4 WSW2	S	03-28-18 00:00		580872-046
SP-4 WSW3	S	03-28-18 00:00		580872-047
SP-5 FL1 @ 4'	S	03-28-18 00:00	- 4 ft	580872-048
SP-5 FL2	S	03-28-18 00:00		580872-049
SP-5 NSW	S	03-28-18 00:00		580872-050
SP-5 ESW	S	03-28-18 00:00		580872-051
SP-5 SSW-1	S	03-28-18 00:00		580872-052
SP-5 SSW-2	S	03-28-18 00:00		580872-053
SP-5 WSW	S	03-28-18 00:00		580872-054

CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Lusk Deep Unit #029H

Project ID:
Work Order Number(s): *580872*

Report Date: *16-APR-18*
Date Received: *03/29/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3045382 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3045383 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3045384 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3045398 DRO-ORO By SW8015B
Surrogate Tricosane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 580872-001 S,580872-002,580872-003,580872-006,580872-011,580872-012,580872-013,580872-014,580872-015,580872-017,580872-018,580872-001,580872-019,580872-020.
Surrogate n-Triacontane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 580872-001 S,580872-002,580872-003,580872-006,580872-011,580872-020,580872-013,580872-014,580872-015,580872-017,580872-018,580872-019,580872-001,580872-012.
Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 580872-004,580872-008.

Batch: LBA-3045526 DRO-ORO By SW8015B
Surrogate Tricosane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 580872-022,580872-023,580872-026,580872-027,580872-029,580872-030,580872-040,580872-035,580872-036,580872-037,580872-038,580872-039.

CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Lusk Deep Unit #029H

Project ID:
Work Order Number(s): *580872*

Report Date: *16-APR-18*
Date Received: *03/29/2018*

Batch: LBA-3045557 DRO-ORO By SW8015B

Surrogate n-Triacontane recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 580872-049,580872-048,580872-046,580872-045,580872-054,580872-043,580872-042,580872-052,580872-051,580872-044.

Surrogate Tricosane recovered below QC limits Data confirmed by re-analysis. Samples affected are: 7641816-1-BLK,580872-042,580872-054,580872-053,580872-052,580872-051,580872-050,580872-049,580872-048,580872-046,580872-045,580872-043,580872-044.

Batch: LBA-3045634 Chloride by EPA 300

Lab Sample ID 580872-021 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 580872-012, -013, -014, -015, -016, -017, -018, -019, -021.

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

Certificate of Analysis Summary 580872

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea, County NM

Date Received in Lab: Thu Mar-29-18 05:20 pm
Report Date: 16-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580872-001		580872-002		580872-003		580872-004		580872-005		580872-006	
	Field Id:	SP-1 FL-1		SP-1 FL-2		SP-1 FL-3		SP-1 FL-4		SP-1 FL-5		SP-1 FL-6	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00	
BTEX by EPA 8021B	***Extracted:***	Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30	
	Analyzed:	Mar-31-18 02:06		Mar-31-18 04:49		Mar-31-18 05:16		Mar-31-18 05:43		Mar-31-18 06:11		Mar-31-18 06:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0198	0.0198	<0.0198	0.0198	<0.0186	0.0186	<0.0189	0.0189	<0.0187	0.0187	<0.0193	0.0193
Toluene		<0.0198	0.0198	<0.0198	0.0198	<0.0186	0.0186	<0.0189	0.0189	<0.0187	0.0187	<0.0193	0.0193
Ethylbenzene		<0.0198	0.0198	<0.0198	0.0198	<0.0186	0.0186	<0.0189	0.0189	<0.0187	0.0187	<0.0193	0.0193
m,p-Xylenes		<0.0395	0.0395	<0.0395	0.0395	<0.0372	0.0372	0.0549	0.0379	<0.0375	0.0375	<0.0386	0.0386
o-Xylene		<0.0198	0.0198	<0.0198	0.0198	<0.0186	0.0186	<0.0189	0.0189	<0.0187	0.0187	<0.0193	0.0193
Total Xylenes		<0.0198	0.0198	<0.0198	0.0198	<0.0186	0.0186	0.0549	0.0189	<0.0187	0.0187	<0.0193	0.0193
Total BTEX		<0.0198	0.0198	<0.0198	0.0198	<0.0186	0.0186	0.0549	0.0189	<0.0187	0.0187	<0.0193	0.0193
Chloride by EPA 300	***Extracted:***	Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30	
	Analyzed:	Apr-03-18 15:08		Apr-03-18 15:57		Apr-03-18 16:22		Apr-03-18 16:35		Apr-03-18 16:47		Apr-03-18 16:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		141	25.0	35.4	25.0	<25.0	25.0	51.0	25.0	280	50.0	<25.0	25.0
DRO-ORO By SW8015B	***Extracted:***	Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30	
	Analyzed:	Mar-30-18 14:17		Mar-30-18 16:01		Mar-30-18 16:35		Mar-30-18 17:10		Mar-30-18 17:44		Mar-30-18 18:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		<24.8	24.8	<25.2	25.2	<24.8	24.8	246	24.9	41.9	24.9	<25.2	25.2
Oil Range Hydrocarbons (ORO)		<24.8	24.8	<25.2	25.2	<24.8	24.8	<24.9	24.9	<24.9	24.9	<25.2	25.2
TPH GRO by EPA 8015 Mod.	***Extracted:***	Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30	
	Analyzed:	Mar-31-18 02:06		Mar-31-18 04:49		Mar-31-18 05:16		Mar-31-18 05:43		Mar-31-18 06:11		Mar-31-18 06:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		<3.95	3.95	<3.95	3.95	<3.72	3.72	6.60	3.79	<3.75	3.75	<3.86	3.86

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580872

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea, County NM

Date Received in Lab: Thu Mar-29-18 05:20 pm
Report Date: 16-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580872-007		580872-008		580872-009		580872-010		580872-011		580872-012	
	Field Id:	SP-1 FL-7		SP-1B FL-1		SP-1B NSW		SP-1B ESW		SP-1 WSW1		SP-1 WSW2	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00	
BTEX by EPA 8021B	***Extracted:***	Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30					
	Analyzed:	Mar-31-18 07:04		Mar-31-18 07:31		Mar-31-18 07:59		Mar-31-18 08:25					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.0190	0.0190	<0.0193	0.0193	<0.0195	0.0195	<0.0189	0.0189				
Toluene		<0.0190	0.0190	<0.0193	0.0193	<0.0195	0.0195	<0.0189	0.0189				
Ethylbenzene		<0.0190	0.0190	0.0193	0.0193	<0.0195	0.0195	<0.0189	0.0189				
m,p-Xylenes		<0.0380	0.0380	<0.0385	0.0385	<0.0390	0.0390	<0.0378	0.0378				
o-Xylene		<0.0190	0.0190	<0.0193	0.0193	<0.0195	0.0195	<0.0189	0.0189				
Total Xylenes		<0.019	0.019	<0.0193	0.0193	<0.0195	0.0195	<0.0189	0.0189				
Total BTEX		<0.019	0.019	0.0193	0.0193	<0.0195	0.0195	<0.0189	0.0189				
Chloride by EPA 300	***Extracted:***	Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30	
	Analyzed:	Apr-03-18 17:12		Apr-03-18 17:24		Apr-03-18 17:37		Apr-03-18 17:49		Apr-03-18 18:01		Apr-03-18 19:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1070	125	204	50.0	121	50.0	29.0	25.0	87.6	25.0	294	50.0
DRO-ORO By SW8015B	***Extracted:***	Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30	
	Analyzed:	Mar-30-18 18:54		Mar-30-18 19:29		Mar-30-18 20:04		Mar-30-18 20:40		Mar-30-18 21:15		Mar-30-18 21:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		191	25.3	251	25.0	26.8	24.8	<25.3	25.3	<25.0	25.0	<25.0	25.0
Oil Range Hydrocarbons (ORO)		<25.3	25.3	<25.0	25.0	<24.8	24.8	<25.3	25.3	<25.0	25.0	<25.0	25.0
TPH GRO by EPA 8015 Mod.	***Extracted:***	Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30	
	Analyzed:	Mar-31-18 07:04		Mar-31-18 07:31		Mar-31-18 07:59		Mar-31-18 08:25		Mar-31-18 10:42		Mar-31-18 11:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		<3.80	3.80	<3.85	3.85	<3.90	3.90	<3.78	3.78	<3.92	3.92	<3.58	3.58

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580872

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea, County NM

Date Received in Lab: Thu Mar-29-18 05:20 pm
Report Date: 16-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580872-013		580872-014		580872-015		580872-016		580872-017		580872-018	
	Field Id:	SP-2 @ 5'		SP-2 FL @ 6'		SP-2 NWSW		SP-2 ESW		SP-3 FL-1		SP-3 NSW	
	Depth:	5		6 ft									
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00	
BTEX by EPA 8021B	***Extracted:***			Mar-30-18 10:30						Mar-30-18 10:30			
	Analyzed:			Mar-31-18 12:06						Mar-31-18 21:37			
	Units/RL:			mg/kg	RL					mg/kg	RL		
Benzene				<0.0190	0.0190					<0.0181	0.0181		
Toluene				<0.0190	0.0190					<0.0181	0.0181		
Ethylbenzene				<0.0190	0.0190					<0.0181	0.0181		
m,p-Xylenes				<0.0380	0.0380					<0.0363	0.0363		
o-Xylene				<0.0190	0.0190					<0.0181	0.0181		
Total Xylenes				<0.019	0.019					<0.0181	0.0181		
Total BTEX				<0.019	0.019					<0.0181	0.0181		
Chloride by EPA 300	***Extracted:***	Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30	
	Analyzed:	Apr-03-18 19:53		Apr-03-18 20:06		Apr-03-18 20:18		Apr-03-18 20:30		Apr-03-18 20:43		Apr-03-18 20:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1170	125	228	50.0	252	25.0	70.6	25.0	55.5	25.0	<25.0	25.0
DRO-ORO By SW8015B	***Extracted:***	Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 11:30	
	Analyzed:	Mar-30-18 22:25		Mar-30-18 23:01		Mar-30-18 23:37		Apr-02-18 09:41		Apr-02-18 10:16		Apr-02-18 10:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		<25.2	25.2	<25.1	25.1	<25.3	25.3	91.3	25.1	<25.0	25.0	<25.1	25.1
Oil Range Hydrocarbons (ORO)		<25.2	25.2	<25.1	25.1	<25.3	25.3	25.1	25.1	<25.0	25.0	<25.1	25.1
TPH GRO by EPA 8015 Mod.	***Extracted:***	Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30	
	Analyzed:	Mar-31-18 11:36		Mar-31-18 12:06		Mar-31-18 12:34		Mar-31-18 13:01		Mar-31-18 21:37		Mar-31-18 13:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		<3.77	3.77	<3.80	3.80	<3.67	3.67	<4.00	4.00	<3.63	3.63	<3.80	3.80

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580872

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea, County NM

Date Received in Lab: Thu Mar-29-18 05:20 pm
Report Date: 16-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580872-019		580872-020		580872-021		580872-022		580872-023		580872-024	
	Field Id:	SP-3 ESW		SP-3 SSW		SP-1b SSW		SP-1b WSW		SP-1 NSW1		SP-1 NSW2	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00	
Chloride by EPA 300	***Extracted:***	Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30	
	Analyzed:	Apr-03-18 21:08		Apr-04-18 13:11		Apr-03-18 21:20		Apr-04-18 13:23		Apr-04-18 13:36		Apr-04-18 13:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		53.3	25.0	53.7	25.0	139	25.0	230	50.0	<25.0	25.0	35.1	25.0
DRO-ORO By SW8015B	***Extracted:***	Mar-30-18 11:30		Mar-30-18 11:30		Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25	
	Analyzed:	Apr-02-18 11:27		Apr-02-18 12:02		Apr-02-18 14:59		Apr-02-18 16:44		Apr-02-18 17:20		Apr-02-18 17:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		<25.2	25.2	<25.0	25.0	<25.1	25.1	<25.2	25.2	<25.0	25.0	<24.8	24.8
Oil Range Hydrocarbons (ORO)		<25.2	25.2	<25.0	25.0	<25.1	25.1	<25.2	25.2	<25.0	25.0	<24.8	24.8
TPH GRO by EPA 8015 Mod.	***Extracted:***	Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30	
	Analyzed:	Mar-31-18 13:56		Mar-31-18 14:23		Mar-31-18 14:50		Apr-01-18 00:19		Apr-01-18 00:46		Apr-01-18 01:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		<3.72	3.72	<3.77	3.77	<3.94	3.94	<3.94	3.94	<3.94	3.94	<3.70	3.70

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580872

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea, County NM

Date Received in Lab: Thu Mar-29-18 05:20 pm
Report Date: 16-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580872-025		580872-026		580872-027		580872-028		580872-029		580872-030	
	Field Id:	SP-1 NSW3		SP-1 ESW1		SP-1 ESW2		SP-1 SSW1		SP-1 SSW2		SP-1 SSW3	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00	
Chloride by EPA 300	***Extracted:***	Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30	
	Analyzed:	Apr-04-18 14:00		Apr-04-18 14:13		Apr-04-18 14:25		Apr-04-18 14:38		Apr-04-18 17:18		Apr-04-18 17:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		491	125	105	25.0	554	125	78.2	50.0	99.8	50.0	75.4	25.0
DRO-ORO By SW8015B	***Extracted:***	Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25	
	Analyzed:	Apr-02-18 18:30		Apr-02-18 19:06		Apr-02-18 19:41		Apr-02-18 20:16		Apr-02-18 20:52		Apr-02-18 21:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		49.7	24.9	<24.9	24.9	<25.3	25.3	<25.3	25.3	<25.0	25.0	<25.0	25.0
Oil Range Hydrocarbons (ORO)		<24.9	24.9	<24.9	24.9	<25.3	25.3	<25.3	25.3	<25.0	25.0	<25.0	25.0
TPH GRO by EPA 8015 Mod.	***Extracted:***	Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30	
	Analyzed:	Apr-01-18 01:40		Apr-01-18 02:07		Apr-01-18 02:34		Apr-01-18 03:01		Apr-01-18 03:29		Apr-01-18 03:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		<3.91	3.91	<3.87	3.87	<3.63	3.63	<3.78	3.78	<3.99	3.99	<3.67	3.67

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580872

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea, County NM

Date Received in Lab: Thu Mar-29-18 05:20 pm
Report Date: 16-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580872-031		580872-032		580872-033		580872-034		580872-035		580872-036	
	Field Id:	SP-3 WSW		SP-4 FL-1		SP-4 FL-2		SP-4 FL-3		SP-4 FL-4		SP-4 FL-5	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00	
BTEX by EPA 8021B	***Extracted:***			Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30	
	Analyzed:			Apr-01-18 06:38		Apr-01-18 08:36		Apr-01-18 09:03		Apr-01-18 09:31		Apr-01-18 09:58	
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene				<0.0183	0.0183	<0.0200	0.0200	<0.0183	0.0183	<0.0193	0.0193	<0.0181	0.0181
Toluene				<0.0183	0.0183	<0.0200	0.0200	<0.0183	0.0183	<0.0193	0.0193	<0.0181	0.0181
Ethylbenzene				<0.0183	0.0183	<0.0200	0.0200	<0.0183	0.0183	<0.0193	0.0193	<0.0181	0.0181
m,p-Xylenes				<0.0366	0.0366	<0.0400	0.0400	<0.0366	0.0366	<0.0387	0.0387	<0.0361	0.0361
o-Xylene				<0.0183	0.0183	<0.0200	0.0200	<0.0183	0.0183	<0.0193	0.0193	<0.0181	0.0181
Total Xylenes				<0.0183	0.0183	<0.02	0.02	<0.0183	0.0183	<0.0193	0.0193	<0.0181	0.0181
Total BTEX				<0.0183	0.0183	<0.02	0.02	<0.0183	0.0183	<0.0193	0.0193	<0.0181	0.0181
Chloride by EPA 300	***Extracted:***	Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30	
	Analyzed:	Apr-04-18 14:50		Apr-04-18 17:43		Apr-04-18 17:55		Apr-04-18 18:08		Apr-04-18 18:20		Apr-04-18 18:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		393	25.0	26.9	25.0	<25.0	25.0	<25.0	25.0	<25.0	25.0	<25.0	25.0
DRO-ORO By SW8015B	***Extracted:***	Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25	
	Analyzed:	Apr-02-18 22:02		Apr-02-18 22:37		Apr-02-18 23:13		Apr-02-18 23:48		Apr-03-18 00:24		Apr-03-18 00:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		<25.3	25.3	80.5	25.1	<25.2	25.2	<25.3	25.3	<25.3	25.3	<24.8	24.8
Oil Range Hydrocarbons (ORO)		<25.3	25.3	<25.1	25.1	<25.2	25.2	<25.3	25.3	<25.3	25.3	<24.8	24.8
TPH GRO by EPA 8015 Mod.	***Extracted:***	Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30	
	Analyzed:	Apr-01-18 06:11		Apr-01-18 06:38		Apr-01-18 08:36		Apr-01-18 09:03		Apr-01-18 09:31		Apr-01-18 09:58	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		<3.61	3.61	<3.66	3.66	<4.00	4.00	<3.66	3.66	<3.87	3.87	<3.61	3.61

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580872

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea, County NM

Date Received in Lab: Thu Mar-29-18 05:20 pm
Report Date: 16-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580872-037		580872-038		580872-039		580872-040		580872-041		580872-042	
	Field Id:	SP-4 NSW1		SP-4 NSW2		SP-4 NSW3		SP-4 ESW		SP-4 ESW2		SP-4 SSW1	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00	
Chloride by EPA 300	***Extracted:***	Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30	
	Analyzed:	Apr-05-18 00:45		Apr-04-18 19:47		Apr-04-18 19:59		Apr-04-18 20:12		Apr-04-18 18:45		Apr-04-18 20:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<25.0	25.0	<25.0	25.0	<25.0	25.0	<25.0	25.0	<25.0	25.0	<25.0	25.0
DRO-ORO By SW8015B	***Extracted:***	Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 12:25		Mar-30-18 13:00		Mar-30-18 13:00	
	Analyzed:	Apr-03-18 01:34		Apr-03-18 02:10		Apr-03-18 02:45		Apr-03-18 03:20		Apr-03-18 06:17		Apr-03-18 08:03	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		<25.1	25.1	<25.2	25.2	<24.9	24.9	<25.1	25.1	<25.2	25.2	<24.9	24.9
Oil Range Hydrocarbons (ORO)		<25.1	25.1	<25.2	25.2	<24.9	24.9	<25.1	25.1	<25.2	25.2	<24.9	24.9
TPH GRO by EPA 8015 Mod.	***Extracted:***	Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30	
	Analyzed:	Apr-01-18 10:26		Apr-01-18 10:53		Apr-01-18 11:20		Apr-01-18 11:48		Apr-01-18 21:18		Apr-01-18 21:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		<3.56	3.56	<3.55	3.55	<3.93	3.93	<3.82	3.82	<3.72	3.72	<3.51	3.51

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580872

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea, County NM

Date Received in Lab: Thu Mar-29-18 05:20 pm
Report Date: 16-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	580872-043		580872-044		580872-045		580872-046		580872-047		580872-048	
	Field Id:	SP-4 SSW2		SP-4 SSW3		SP-4 WSW1		SP-4 WSW2		SP-4 WSW3		SP-5 FL1 @ 4'	
	Depth:											4 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00	
BTEX by EPA 8021B	***Extracted:***											Mar-30-18 10:30	
	Analyzed:											Apr-02-18 00:30	
	Units/RL:											mg/kg	RL
Benzene												<0.0175	0.0175
Toluene												<0.0175	0.0175
Ethylbenzene												<0.0175	0.0175
m,p-Xylenes												<0.0350	0.0350
o-Xylene												<0.0175	0.0175
Total Xylenes												<0.0175	0.0175
Total BTEX												<0.0175	0.0175
Chloride by EPA 300	***Extracted:***	Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30	
	Analyzed:	Apr-04-18 20:37		Apr-04-18 20:49		Apr-04-18 21:02		Apr-04-18 21:14		Apr-04-18 21:26		Apr-04-18 23:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<25.0	25.0	25.2	25.0	<25.0	25.0	<25.0	25.0	28.0	25.0	<25.0	25.0
DRO-ORO By SW8015B	***Extracted:***	Mar-30-18 13:00		Mar-30-18 13:00		Mar-30-18 13:00		Mar-30-18 13:00		Mar-30-18 13:00		Mar-30-18 13:00	
	Analyzed:	Apr-03-18 08:39		Apr-03-18 09:15		Apr-03-18 09:51		Apr-03-18 10:26		Apr-03-18 11:02		Apr-03-18 11:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		<25.0	25.0	<25.1	25.1	<24.9	24.9	<25.2	25.2	<25.1	25.1	<24.8	24.8
Oil Range Hydrocarbons (ORO)		<25.0	25.0	<25.1	25.1	<24.9	24.9	<25.2	25.2	<25.1	25.1	<24.8	24.8
TPH GRO by EPA 8015 Mod.	***Extracted:***	Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30	
	Analyzed:	Apr-01-18 22:13		Apr-01-18 22:40		Apr-01-18 23:08		Apr-01-18 23:35		Apr-02-18 00:02		Apr-02-18 00:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		<3.92	3.92	<3.77	3.77	<3.83	3.83	<3.81	3.81	<3.61	3.61	<3.50	3.50

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 580872

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea, County NM

Date Received in Lab: Thu Mar-29-18 05:20 pm
Report Date: 16-APR-18
Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	580872-049		580872-050		580872-051		580872-052		580872-053		580872-054	
	Field Id:	SP-5 FL2		SP-5 NSW		SP-5 ESW		SP-5 SSW-1		SP-5 SSW-2		SP-5 WSW	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00		Mar-28-18 00:00	
BTEX by EPA 8021B	*Extracted:*	Mar-30-18 10:30				Mar-30-18 10:30							
	Analyzed:	Apr-02-18 00:57				Apr-01-18 18:34							
	Units/RL:	mg/kg	RL			mg/kg	RL						
Benzene		<0.0196	0.0196			<0.0183	0.0183						
Toluene		<0.0196	0.0196			<0.0183	0.0183						
Ethylbenzene		<0.0196	0.0196			<0.0183	0.0183						
m,p-Xylenes		<0.0393	0.0393			<0.0366	0.0366						
o-Xylene		<0.0196	0.0196			<0.0183	0.0183						
Total Xylenes		<0.0196	0.0196			<0.0183	0.0183						
Total BTEX		<0.0196	0.0196			<0.0183	0.0183						
Chloride by EPA 300	*Extracted:*	Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30		Apr-03-18 10:30	
	Analyzed:	Apr-04-18 23:18		Apr-04-18 23:31		Apr-04-18 21:39		Apr-04-18 23:43		Apr-04-18 23:55		Apr-05-18 00:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<25.0	25.0	<25.0	25.0	<25.0	25.0	<25.0	25.0	<25.0	25.0	<25.0	25.0
DRO-ORO By SW8015B	*Extracted:*	Mar-30-18 13:00		Mar-30-18 13:00		Mar-30-18 13:00		Mar-30-18 13:00		Mar-30-18 13:00		Mar-30-18 13:00	
	Analyzed:	Apr-03-18 12:14		Apr-03-18 12:50		Apr-03-18 13:25		Apr-03-18 14:00		Apr-03-18 14:33		Apr-03-18 15:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Diesel Range Organics (DRO)		<25.1	25.1	<25.0	25.0	<24.8	24.8	<24.8	24.8	<24.8	24.8	<25.2	25.2
Oil Range Hydrocarbons (ORO)		<25.1	25.1	<25.0	25.0	<24.8	24.8	<24.8	24.8	<24.8	24.8	<25.2	25.2
TPH GRO by EPA 8015 Mod.	*Extracted:*	Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30		Mar-30-18 10:30	
	Analyzed:	Apr-02-18 00:57		Apr-02-18 03:12		Apr-01-18 18:34		Apr-02-18 03:38		Apr-02-18 04:05		Apr-02-18 04:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
TPH-GRO		<3.93	3.93	<3.64	3.64	<3.66	3.66	<3.77	3.77	<3.52	3.52	<3.51	3.51

Kelsey Brooks
Project Manager

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045398 **Sample:** 580872-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 14:17

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	3.96	9.93	40	65-144	**
n-Triacontane	4.19	9.93	42	46-152	**

Lab Batch #: 3045398 **Sample:** 580872-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 16:01

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	4.51	10.1	45	65-144	**
n-Triacontane	3.76	10.1	37	46-152	**

Lab Batch #: 3045398 **Sample:** 580872-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 16:35

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	4.26	9.91	43	65-144	**
n-Triacontane	2.96	9.91	30	46-152	**

Lab Batch #: 3045398 **Sample:** 580872-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 17:10

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	15.1	9.94	152	65-144	**
n-Triacontane	10.8	9.94	109	46-152	

Lab Batch #: 3045398 **Sample:** 580872-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 17:44

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	9.77	9.96	98	65-144	
n-Triacontane	6.84	9.96	69	46-152	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045398 **Sample:** 580872-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 18:19

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	5.07	10.1	50	65-144	**
n-Triacontane	3.79	10.1	38	46-152	**

Lab Batch #: 3045398 **Sample:** 580872-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 18:54

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.6	10.1	115	65-144	
n-Triacontane	9.67	10.1	96	46-152	

Lab Batch #: 3045398 **Sample:** 580872-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 19:29

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	14.5	10.0	145	65-144	**
n-Triacontane	10.7	10.0	107	46-152	

Lab Batch #: 3045398 **Sample:** 580872-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 20:04

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	9.38	9.90	95	65-144	
n-Triacontane	6.82	9.90	69	46-152	

Lab Batch #: 3045398 **Sample:** 580872-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 20:40

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	8.88	10.1	88	65-144	
n-Triacontane	5.29	10.1	52	46-152	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045398 **Sample:** 580872-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 21:15

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	4.70	9.99	47	65-144	**
n-Triacontane	3.48	9.99	35	46-152	**

Lab Batch #: 3045398 **Sample:** 580872-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 21:50

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	5.87	10.0	59	65-144	**
n-Triacontane	4.31	10.0	43	46-152	**

Lab Batch #: 3045398 **Sample:** 580872-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 22:25

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	5.12	10.1	51	65-144	**
n-Triacontane	3.78	10.1	37	46-152	**

Lab Batch #: 3045398 **Sample:** 580872-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 23:01

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	5.96	10.0	60	65-144	**
n-Triacontane	3.67	10.0	37	46-152	**

Lab Batch #: 3045398 **Sample:** 580872-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 23:37

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	1.76	10.1	17	65-144	**
n-Triacontane	3.65	10.1	36	46-152	**

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045382 **Sample:** 580872-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 02:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.108	0.100	108	68-120	
a,a,a-Trifluorotoluene	2.04	1.98	103	71-121	

Lab Batch #: 3045385 **Sample:** 580872-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 02:06

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.100	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.99	1.98	101	69-120	

Lab Batch #: 3045382 **Sample:** 580872-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 04:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.106	0.100	106	68-120	
a,a,a-Trifluorotoluene	2.06	1.98	104	71-121	

Lab Batch #: 3045385 **Sample:** 580872-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 04:49

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0981	0.100	98	76-123	
a,a,a-Trifluorotoluene	1.93	1.98	97	69-120	

Lab Batch #: 3045382 **Sample:** 580872-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 05:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.108	0.100	108	68-120	
a,a,a-Trifluorotoluene	1.95	1.86	105	71-121	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045385 **Sample:** 580872-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 05:16

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.100	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.83	1.86	98	69-120	

Lab Batch #: 3045382 **Sample:** 580872-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 05:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.106	0.100	106	68-120	
a,a,a-Trifluorotoluene	1.98	1.89	105	71-121	

Lab Batch #: 3045385 **Sample:** 580872-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 05:43

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0912	0.100	91	76-123	
a,a,a-Trifluorotoluene	1.75	1.89	93	69-120	

Lab Batch #: 3045382 **Sample:** 580872-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 06:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.108	0.100	108	68-120	
a,a,a-Trifluorotoluene	1.97	1.87	105	71-121	

Lab Batch #: 3045385 **Sample:** 580872-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 06:11

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.103	0.100	103	76-123	
a,a,a-Trifluorotoluene	1.76	1.87	94	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045382 **Sample:** 580872-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 06:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.105	0.100	105	68-120	
a,a,a-Trifluorotoluene	1.96	1.93	102	71-121	

Lab Batch #: 3045385 **Sample:** 580872-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 06:37

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0984	0.100	98	76-123	
a,a,a-Trifluorotoluene	1.87	1.93	97	69-120	

Lab Batch #: 3045382 **Sample:** 580872-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 07:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0988	0.100	99	68-120	
a,a,a-Trifluorotoluene	1.99	1.90	105	71-121	

Lab Batch #: 3045385 **Sample:** 580872-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 07:04

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0993	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.85	1.90	97	69-120	

Lab Batch #: 3045382 **Sample:** 580872-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 07:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.106	0.100	106	68-120	
a,a,a-Trifluorotoluene	2.04	1.93	106	71-121	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045385 **Sample:** 580872-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 07:31

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.104	0.100	104	76-123	
a,a,a-Trifluorotoluene	1.83	1.93	95	69-120	

Lab Batch #: 3045382 **Sample:** 580872-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 07:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.108	0.100	108	68-120	
a,a,a-Trifluorotoluene	1.97	1.95	101	71-121	

Lab Batch #: 3045385 **Sample:** 580872-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 07:59

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.100	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.80	1.95	92	69-120	

Lab Batch #: 3045382 **Sample:** 580872-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 08:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.105	0.100	105	68-120	
a,a,a-Trifluorotoluene	1.93	1.89	102	71-121	

Lab Batch #: 3045385 **Sample:** 580872-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 08:25

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0979	0.100	98	76-123	
a,a,a-Trifluorotoluene	1.79	1.89	95	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045385 **Sample:** 580872-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 10:42

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.103	0.100	103	76-123	
a,a,a-Trifluorotoluene	1.81	1.96	92	69-120	

Lab Batch #: 3045385 **Sample:** 580872-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 11:09

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0997	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.72	1.79	96	69-120	

Lab Batch #: 3045385 **Sample:** 580872-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 11:36

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.85	1.89	98	69-120	

Lab Batch #: 3045382 **Sample:** 580872-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 12:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.109	0.100	109	68-120	
a,a,a-Trifluorotoluene	1.96	1.90	103	71-121	

Lab Batch #: 3045385 **Sample:** 580872-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 12:06

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.86	1.90	98	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045385 **Sample:** 580872-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 12:34

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.100	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.72	1.83	94	69-120	

Lab Batch #: 3045385 **Sample:** 580872-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 13:01

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0989	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.89	2.00	95	69-120	

Lab Batch #: 3045385 **Sample:** 580872-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 13:29

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0992	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.78	1.90	94	69-120	

Lab Batch #: 3045385 **Sample:** 580872-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 13:56

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0998	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.79	1.86	96	69-120	

Lab Batch #: 3045385 **Sample:** 580872-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 14:23

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.79	1.89	95	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045385 **Sample:** 580872-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 14:50

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.100	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.87	1.97	95	69-120	

Lab Batch #: 3045383 **Sample:** 580872-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 21:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.110	0.100	110	68-120	
a,a,a-Trifluorotoluene	1.81	1.81	100	71-121	

Lab Batch #: 3045396 **Sample:** 580872-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 21:37

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.103	0.100	103	76-123	
a,a,a-Trifluorotoluene	1.73	1.81	96	69-120	

Lab Batch #: 3045396 **Sample:** 580872-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 00:19

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0998	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.94	1.97	98	69-120	

Lab Batch #: 3045396 **Sample:** 580872-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 00:46

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.88	1.97	95	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045396 **Sample:** 580872-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 01:13

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0980	0.100	98	76-123	
a,a,a-Trifluorotoluene	1.78	1.85	96	69-120	

Lab Batch #: 3045396 **Sample:** 580872-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 01:40

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0996	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.88	1.96	96	69-120	

Lab Batch #: 3045396 **Sample:** 580872-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 02:07

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.83	1.93	95	69-120	

Lab Batch #: 3045396 **Sample:** 580872-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 02:34

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0992	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.71	1.81	94	69-120	

Lab Batch #: 3045396 **Sample:** 580872-028 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 03:01

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.85	1.89	98	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045396 **Sample:** 580872-029 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 03:29

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.91	2.00	96	69-120	

Lab Batch #: 3045396 **Sample:** 580872-030 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 03:56

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0994	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.81	1.83	99	69-120	

Lab Batch #: 3045396 **Sample:** 580872-031 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 06:11

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.73	1.81	96	69-120	

Lab Batch #: 3045383 **Sample:** 580872-032 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 06:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.105	0.100	105	68-120	
a,a,a-Trifluorotoluene	1.92	1.83	105	71-121	

Lab Batch #: 3045396 **Sample:** 580872-032 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 06:38

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0992	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.71	1.83	93	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045383 **Sample:** 580872-033 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 08:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.104	0.100	104	68-120	
a,a,a-Trifluorotoluene	1.92	2.00	96	71-121	

Lab Batch #: 3045396 **Sample:** 580872-033 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 08:36

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0966	0.100	97	76-123	
a,a,a-Trifluorotoluene	1.67	2.00	84	69-120	

Lab Batch #: 3045383 **Sample:** 580872-034 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 09:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.104	0.100	104	68-120	
a,a,a-Trifluorotoluene	1.83	1.83	100	71-121	

Lab Batch #: 3045396 **Sample:** 580872-034 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 09:03

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0977	0.100	98	76-123	
a,a,a-Trifluorotoluene	1.67	1.83	91	69-120	

Lab Batch #: 3045383 **Sample:** 580872-035 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 09:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.107	0.100	107	68-120	
a,a,a-Trifluorotoluene	1.95	1.93	101	71-121	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045396 **Sample:** 580872-035 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 09:31

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.100	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.82	1.93	94	69-120	

Lab Batch #: 3045383 **Sample:** 580872-036 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 09:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.105	0.100	105	68-120	
a,a,a-Trifluorotoluene	1.82	1.81	101	71-121	

Lab Batch #: 3045396 **Sample:** 580872-036 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 09:58

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0976	0.100	98	76-123	
a,a,a-Trifluorotoluene	1.74	1.81	96	69-120	

Lab Batch #: 3045396 **Sample:** 580872-037 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 10:26

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0999	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.73	1.78	97	69-120	

Lab Batch #: 3045396 **Sample:** 580872-038 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 10:53

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0969	0.100	97	76-123	
a,a,a-Trifluorotoluene	1.73	1.77	98	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045396 **Sample:** 580872-039 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 11:20

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0988	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.81	1.96	92	69-120	

Lab Batch #: 3045396 **Sample:** 580872-040 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 11:48

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0991	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.80	1.91	94	69-120	

Lab Batch #: 3045384 **Sample:** 580872-051 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 18:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.107	0.100	107	68-120	
a,a,a-Trifluorotoluene	1.82	1.83	99	71-121	

Lab Batch #: 3045401 **Sample:** 580872-051 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 18:34

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.77	1.83	97	69-120	

Lab Batch #: 3045401 **Sample:** 580872-041 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 21:18

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0993	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.76	1.86	95	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045401 **Sample:** 580872-042 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 21:46

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0996	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.69	1.75	97	69-120	

Lab Batch #: 3045401 **Sample:** 580872-043 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 22:13

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.100	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.84	1.96	94	69-120	

Lab Batch #: 3045401 **Sample:** 580872-044 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 22:40

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0984	0.100	98	76-123	
a,a,a-Trifluorotoluene	1.81	1.88	96	69-120	

Lab Batch #: 3045401 **Sample:** 580872-045 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 23:08

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.100	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.80	1.92	94	69-120	

Lab Batch #: 3045401 **Sample:** 580872-046 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 23:35

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0985	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.77	1.90	93	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045401 **Sample:** 580872-047 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 00:02

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0974	0.100	97	76-123	
a,a,a-Trifluorotoluene	1.73	1.81	96	69-120	

Lab Batch #: 3045384 **Sample:** 580872-048 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 00:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.105	0.100	105	68-120	
a,a,a-Trifluorotoluene	1.77	1.75	101	71-121	

Lab Batch #: 3045401 **Sample:** 580872-048 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 00:30

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0996	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.65	1.75	94	69-120	

Lab Batch #: 3045384 **Sample:** 580872-049 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 00:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.105	0.100	105	68-120	
a,a,a-Trifluorotoluene	1.94	1.96	99	71-121	

Lab Batch #: 3045401 **Sample:** 580872-049 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 00:57

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0987	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.84	1.96	94	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045401 **Sample:** 580872-050 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 03:12

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.80	1.82	99	69-120	

Lab Batch #: 3045401 **Sample:** 580872-052 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 03:38

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.85	1.89	98	69-120	

Lab Batch #: 3045401 **Sample:** 580872-053 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 04:05

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0990	0.100	99	76-123	
a,a,a-Trifluorotoluene	1.69	1.76	96	69-120	

Lab Batch #: 3045401 **Sample:** 580872-054 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 04:33

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.100	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.67	1.76	95	69-120	

Lab Batch #: 3045398 **Sample:** 580872-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 09:41

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	9.97	10.0	100	65-144	
n-Triacontane	7.57	10.0	76	46-152	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045398 **Sample:** 580872-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 10:16

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	2.47	10.0	25	65-144	**
n-Triacontane	2.31	10.0	23	46-152	**

Lab Batch #: 3045398 **Sample:** 580872-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 10:52

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	2.20	10.1	22	65-144	**
n-Triacontane	2.56	10.1	25	46-152	**

Lab Batch #: 3045398 **Sample:** 580872-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 11:27

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	3.45	10.1	34	65-144	**
n-Triacontane	2.89	10.1	29	46-152	**

Lab Batch #: 3045398 **Sample:** 580872-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 12:02

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	3.18	10.0	32	65-144	**
n-Triacontane	2.62	10.0	26	46-152	**

Lab Batch #: 3045526 **Sample:** 580872-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 14:59

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	5.30	5.03	105	65-144	
n-Triacontane	2.97	5.03	59	46-152	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045526 **Sample:** 580872-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 16:44

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	3.14	5.04	62	65-144	**
n-Triacontane	3.33	5.04	66	46-152	

Lab Batch #: 3045526 **Sample:** 580872-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 17:20

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	2.97	5.00	59	65-144	**
n-Triacontane	3.35	5.00	67	46-152	

Lab Batch #: 3045526 **Sample:** 580872-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 17:55

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	3.26	4.96	66	65-144	
n-Triacontane	2.73	4.96	55	46-152	

Lab Batch #: 3045526 **Sample:** 580872-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 18:30

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	5.28	4.99	106	65-144	
n-Triacontane	6.17	4.99	124	46-152	

Lab Batch #: 3045526 **Sample:** 580872-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 19:06

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	2.62	4.99	53	65-144	**
n-Triacontane	2.99	4.99	60	46-152	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045526 **Sample:** 580872-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 19:41

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	3.09	5.05	61	65-144	**
n-Triacontane	3.17	5.05	63	46-152	

Lab Batch #: 3045526 **Sample:** 580872-028 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 20:16

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	3.27	5.05	65	65-144	
n-Triacontane	2.72	5.05	54	46-152	

Lab Batch #: 3045526 **Sample:** 580872-029 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 20:52

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	2.38	4.99	48	65-144	**
n-Triacontane	2.36	4.99	47	46-152	

Lab Batch #: 3045526 **Sample:** 580872-030 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 21:27

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	1.64	5.00	33	65-144	**
n-Triacontane	2.47	5.00	49	46-152	

Lab Batch #: 3045526 **Sample:** 580872-031 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 22:02

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	7.73	5.05	153	65-144	**
n-Triacontane	6.23	5.05	123	46-152	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045526 **Sample:** 580872-032 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 22:37

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	12.0	5.03	239	65-144	**
n-Triacontane	7.18	5.03	143	46-152	

Lab Batch #: 3045526 **Sample:** 580872-033 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 23:13

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	6.91	5.03	137	65-144	
n-Triacontane	4.98	5.03	99	46-152	

Lab Batch #: 3045526 **Sample:** 580872-034 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 23:48

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	4.59	5.05	91	65-144	
n-Triacontane	4.66	5.05	92	46-152	

Lab Batch #: 3045526 **Sample:** 580872-035 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 00:24

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	2.89	5.05	57	65-144	**
n-Triacontane	3.48	5.05	69	46-152	

Lab Batch #: 3045526 **Sample:** 580872-036 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 00:59

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	2.63	4.97	53	65-144	**
n-Triacontane	2.56	4.97	52	46-152	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045526 **Sample:** 580872-037 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 01:34

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	2.18	5.01	44	65-144	**
n-Triacontane	2.95	5.01	59	46-152	

Lab Batch #: 3045526 **Sample:** 580872-038 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 02:10

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	1.95	5.05	39	65-144	**
n-Triacontane	2.59	5.05	51	46-152	

Lab Batch #: 3045526 **Sample:** 580872-039 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 02:45

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	1.28	4.98	26	65-144	**
n-Triacontane	2.56	4.98	51	46-152	

Lab Batch #: 3045526 **Sample:** 580872-040 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 03:20

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	2.58	5.01	51	65-144	**
n-Triacontane	2.67	5.01	53	46-152	

Lab Batch #: 3045557 **Sample:** 580872-041 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 06:17

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	4.96	5.03	99	65-144	
n-Triacontane	4.21	5.03	84	46-152	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045557 **Sample:** 580872-042 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 08:03

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	0.608	4.99	12	65-144	**
n-Triacontane	1.90	4.99	38	46-152	**

Lab Batch #: 3045557 **Sample:** 580872-043 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 08:39

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	0.620	5.00	12	65-144	**
n-Triacontane	2.18	5.00	44	46-152	**

Lab Batch #: 3045557 **Sample:** 580872-044 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 09:15

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	0.652	5.02	13	65-144	**
n-Triacontane	2.23	5.02	44	46-152	**

Lab Batch #: 3045557 **Sample:** 580872-045 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 09:51

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	1.15	4.98	23	65-144	**
n-Triacontane	2.21	4.98	44	46-152	**

Lab Batch #: 3045557 **Sample:** 580872-046 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 10:26

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	0.746	5.04	15	65-144	**
n-Triacontane	2.01	5.04	40	46-152	**

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045557 **Sample:** 580872-047 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 11:02

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	5.05	5.01	101	65-144	
n-Triacontane	3.70	5.01	74	46-152	

Lab Batch #: 3045557 **Sample:** 580872-048 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 11:38

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	0.663	4.95	13	65-144	**
n-Triacontane	1.70	4.95	34	46-152	**

Lab Batch #: 3045557 **Sample:** 580872-049 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 12:14

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	0.834	5.03	17	65-144	**
n-Triacontane	2.00	5.03	40	46-152	**

Lab Batch #: 3045557 **Sample:** 580872-050 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 12:50

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	1.60	5.00	32	65-144	**
n-Triacontane	2.67	5.00	53	46-152	

Lab Batch #: 3045557 **Sample:** 580872-051 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 13:25

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	0.785	4.97	16	65-144	**
n-Triacontane	2.03	4.97	41	46-152	**

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045557 **Sample:** 580872-052 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 14:00

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	0.653	4.95	13	65-144	**
n-Triacontane	1.90	4.95	38	46-152	**

Lab Batch #: 3045557 **Sample:** 580872-053 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 14:33

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	0.942	4.96	19	65-144	**
n-Triacontane	2.47	4.96	50	46-152	

Lab Batch #: 3045557 **Sample:** 580872-054 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 15:08

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	1.12	5.04	22	65-144	**
n-Triacontane	2.12	5.04	42	46-152	**

Lab Batch #: 3045398 **Sample:** 7641811-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/30/18 12:32

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.2	9.93	113	65-144	
n-Triacontane	6.74	9.93	68	46-152	

Lab Batch #: 3045382 **Sample:** 7641835-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/31/18 01:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0983	0.100	98	68-120	
a,a,a-Trifluorotoluene	1.85	2.00	93	71-121	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045385 **Sample:** 7641838-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/31/18 01:39

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0915	0.100	92	76-123	
a,a,a-Trifluorotoluene	2.14	2.00	107	69-120	

Lab Batch #: 3045383 **Sample:** 7641836-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/31/18 21:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0974	0.100	97	68-120	
a,a,a-Trifluorotoluene	1.84	2.00	92	71-121	

Lab Batch #: 3045396 **Sample:** 7641839-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/31/18 21:10

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0916	0.100	92	76-123	
a,a,a-Trifluorotoluene	2.17	2.00	109	69-120	

Lab Batch #: 3045384 **Sample:** 7641837-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/01/18 18:08

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0947	0.100	95	68-120	
a,a,a-Trifluorotoluene	1.77	2.00	89	71-121	

Lab Batch #: 3045401 **Sample:** 7641840-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/01/18 18:08

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0903	0.100	90	76-123	
a,a,a-Trifluorotoluene	2.11	2.00	106	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045526 **Sample:** 7641812-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/02/18 13:12

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	7.10	5.00	142	65-144	
n-Triacontane	5.32	5.00	106	46-152	

Lab Batch #: 3045557 **Sample:** 7641816-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/03/18 04:31

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	6.00	10.0	60	65-144	**
n-Triacontane	4.75	10.0	48	46-152	

Lab Batch #: 3045398 **Sample:** 7641811-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/30/18 13:08

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.4	9.93	115	65-144	
n-Triacontane	7.64	9.93	77	46-152	

Lab Batch #: 3045382 **Sample:** 7641835-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/30/18 22:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0934	0.100	93	68-120	
a,a,a-Trifluorotoluene	1.76	2.00	88	71-121	

Lab Batch #: 3045385 **Sample:** 7641838-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/30/18 23:50

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0934	0.100	93	76-123	
a,a,a-Trifluorotoluene	1.95	2.00	98	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045383 **Sample:** 7641836-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/31/18 18:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0980	0.100	98	68-120	
a,a,a-Trifluorotoluene	1.68	2.00	84	71-121	

Lab Batch #: 3045396 **Sample:** 7641839-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/31/18 19:21

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0954	0.100	95	76-123	
a,a,a-Trifluorotoluene	1.97	2.00	99	69-120	

Lab Batch #: 3045384 **Sample:** 7641837-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/01/18 15:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0962	0.100	96	68-120	
a,a,a-Trifluorotoluene	1.58	2.00	79	71-121	

Lab Batch #: 3045401 **Sample:** 7641840-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/01/18 16:19

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0947	0.100	95	76-123	
a,a,a-Trifluorotoluene	2.03	2.00	102	69-120	

Lab Batch #: 3045526 **Sample:** 7641812-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/02/18 13:48

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	10.6	10.0	106	65-144	
n-Triacontane	5.30	10.0	53	46-152	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045557 **Sample:** 7641816-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/03/18 05:06

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	6.72	10.0	67	65-144	
n-Triacontane	5.03	10.0	50	46-152	

Lab Batch #: 3045398 **Sample:** 7641811-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/30/18 13:42

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	10.8	9.93	109	65-144	
n-Triacontane	7.40	9.93	75	46-152	

Lab Batch #: 3045382 **Sample:** 7641835-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/30/18 23:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0932	0.100	93	68-120	
a,a,a-Trifluorotoluene	1.70	2.00	85	71-121	

Lab Batch #: 3045385 **Sample:** 7641838-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/31/18 00:17

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0908	0.100	91	76-123	
a,a,a-Trifluorotoluene	1.50	2.00	75	69-120	

Lab Batch #: 3045383 **Sample:** 7641836-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/31/18 18:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0974	0.100	97	68-120	
a,a,a-Trifluorotoluene	1.66	2.00	83	71-121	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045396 **Sample:** 7641839-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/31/18 19:48

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0959	0.100	96	76-123	
a,a,a-Trifluorotoluene	1.76	2.00	88	69-120	

Lab Batch #: 3045384 **Sample:** 7641837-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/01/18 15:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0970	0.100	97	68-120	
a,a,a-Trifluorotoluene	1.73	2.00	87	71-121	

Lab Batch #: 3045401 **Sample:** 7641840-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/01/18 16:47

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0945	0.100	95	76-123	
a,a,a-Trifluorotoluene	1.78	2.00	89	69-120	

Lab Batch #: 3045526 **Sample:** 7641812-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/02/18 14:23

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	8.76	10.0	88	65-144	
n-Triacontane	5.09	10.0	51	46-152	

Lab Batch #: 3045557 **Sample:** 7641816-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/03/18 05:42

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	8.09	10.0	81	65-144	
n-Triacontane	5.16	10.0	52	46-152	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045398 **Sample:** 580872-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 14:52

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	5.97	9.95	60	65-144	**
n-Triacontane	4.09	9.95	41	46-152	**

Lab Batch #: 3045382 **Sample:** 580872-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 02:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.108	0.100	108	68-120	
a,a,a-Trifluorotoluene	1.86	1.99	93	71-121	

Lab Batch #: 3045385 **Sample:** 580872-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 03:27

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.70	1.99	85	69-120	

Lab Batch #: 3045383 **Sample:** 580872-017 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 22:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	68-120	
a,a,a-Trifluorotoluene	1.85	1.90	97	71-121	

Lab Batch #: 3045396 **Sample:** 580872-017 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 22:58

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.103	0.100	103	76-123	
a,a,a-Trifluorotoluene	1.54	1.94	79	69-120	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045384 **Sample:** 580872-051 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 19:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.102	0.100	102	68-120	
a,a,a-Trifluorotoluene	1.76	1.91	92	71-121	

Lab Batch #: 3045401 **Sample:** 580872-051 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 19:57

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.58	1.87	84	69-120	

Lab Batch #: 3045526 **Sample:** 580872-021 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 15:35

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	4.88	5.03	97	65-144	
n-Triacontane	2.83	5.03	56	46-152	

Lab Batch #: 3045557 **Sample:** 580872-041 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 06:52

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	6.17	5.03	123	65-144	
n-Triacontane	3.26	5.03	65	46-152	

Lab Batch #: 3045398 **Sample:** 580872-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/30/18 15:26

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	7.18	9.94	72	65-144	
n-Triacontane	5.76	9.94	58	46-152	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045382 **Sample:** 580872-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 03:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.107	0.100	107	68-120	
a,a,a-Trifluorotoluene	1.92	1.93	99	71-121	

Lab Batch #: 3045385 **Sample:** 580872-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 03:55

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.105	0.100	105	76-123	
a,a,a-Trifluorotoluene	1.58	2.00	79	69-120	

Lab Batch #: 3045383 **Sample:** 580872-017 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 22:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.102	0.100	102	68-120	
a,a,a-Trifluorotoluene	1.80	1.90	95	71-121	

Lab Batch #: 3045396 **Sample:** 580872-017 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/31/18 23:26

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.105	0.100	105	76-123	
a,a,a-Trifluorotoluene	1.52	1.95	78	69-120	

Lab Batch #: 3045384 **Sample:** 580872-051 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 19:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0974	0.100	97	68-120	
a,a,a-Trifluorotoluene	1.68	1.85	91	71-121	

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

Form 2 - Surrogate Recoveries

Project Name: Lusk Deep Unit #029H

Work Orders : 580872, 580872 **Project ID:**

Lab Batch #: 3045401 **Sample:** 580872-051 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/01/18 20:24

TPH GRO by EPA 8015 Mod. Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.104	0.100	104	76-123	
a,a,a-Trifluorotoluene	1.55	1.96	79	69-120	

Lab Batch #: 3045526 **Sample:** 580872-021 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/02/18 16:10

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	6.09	5.03	121	65-144	
n-Triacontane	3.74	5.03	74	46-152	

Lab Batch #: 3045557 **Sample:** 580872-041 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/03/18 07:28

DRO-ORO By SW8015B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	6.33	5.02	126	65-144	
n-Triacontane	3.74	5.02	75	46-152	

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

BS / BSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order #: 580872, 580872 **Project ID:**

Analyst: MIT **Date Prepared:** 03/30/2018 **Date Analyzed:** 03/30/2018

Lab Batch ID: 3045382 **Sample:** 7641835-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0200	2.00	2.05	103	2.00	1.99	100	3	55-120	20	
Toluene	<0.0200	2.00	1.93	97	2.00	1.87	94	3	77-120	20	
Ethylbenzene	<0.0200	2.00	1.87	94	2.00	1.85	93	1	77-120	20	
m,p-Xylenes	<0.0400	4.00	3.74	94	4.00	3.73	93	0	78-120	20	
o-Xylene	<0.0200	2.00	1.88	94	2.00	1.88	94	0	78-120	20	

Analyst: MIT **Date Prepared:** 03/30/2018 **Date Analyzed:** 03/31/2018

Lab Batch ID: 3045383 **Sample:** 7641836-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0200	2.00	1.90	95	2.00	1.93	97	2	55-120	20	
Toluene	<0.0200	2.00	1.94	97	2.00	1.90	95	2	77-120	20	
Ethylbenzene	<0.0200	2.00	1.93	97	2.00	1.94	97	1	77-120	20	
m,p-Xylenes	<0.0400	4.00	3.86	97	4.00	3.87	97	0	78-120	20	
o-Xylene	<0.0200	2.00	1.91	96	2.00	1.93	97	1	78-120	20	

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

BS / BSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order #: 580872, 580872 **Project ID:**

Analyst: MIT **Date Prepared:** 03/30/2018 **Date Analyzed:** 04/01/2018

Lab Batch ID: 3045384 **Sample:** 7641837-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0200	2.00	1.84	92	2.00	1.90	95	3	55-120	20	
Toluene	<0.0200	2.00	1.89	95	2.00	1.90	95	1	77-120	20	
Ethylbenzene	<0.0200	2.00	1.87	94	2.00	1.92	96	3	77-120	20	
m,p-Xylenes	<0.0400	4.00	3.73	93	4.00	3.82	96	2	78-120	20	
o-Xylene	<0.0200	2.00	1.86	93	2.00	1.89	95	2	78-120	20	

Analyst: RNL **Date Prepared:** 04/03/2018 **Date Analyzed:** 04/03/2018

Lab Batch ID: 3045630 **Sample:** 7641993-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	257	103	250	260	104	1	90-110	20	

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

BS / BSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order #: 580872, 580872 **Project ID:**

Analyst: RNL **Date Prepared:** 04/03/2018 **Date Analyzed:** 04/03/2018

Lab Batch ID: 3045634 **Sample:** 7641995-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	255	102	250	254	102	0	90-110	20	

Analyst: RNL **Date Prepared:** 04/03/2018 **Date Analyzed:** 04/04/2018

Lab Batch ID: 3045703 **Sample:** 7642040-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	256	102	250	257	103	0	90-110	20	

Analyst: RNL **Date Prepared:** 04/03/2018 **Date Analyzed:** 04/04/2018

Lab Batch ID: 3045705 **Sample:** 7642041-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	262	105	250	259	104	1	90-110	20	

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

BS / BSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order #: 580872, 580872 **Project ID:**

Analyst: RNL **Date Prepared:** 04/03/2018 **Date Analyzed:** 04/04/2018

Lab Batch ID: 3045707 **Sample:** 7642043-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	263	105	250	261	104	1	90-110	20	

Analyst: PGM **Date Prepared:** 03/30/2018 **Date Analyzed:** 03/30/2018

Lab Batch ID: 3045398 **Sample:** 7641811-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Diesel Range Organics (DRO)	<24.8	99.3	83.6	84	99.3	92.4	93	10	63-139	20	

Analyst: PGM **Date Prepared:** 03/30/2018 **Date Analyzed:** 04/02/2018

Lab Batch ID: 3045526 **Sample:** 7641812-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Diesel Range Organics (DRO)	<25.0	100	101	101	100	104	104	3	63-139	20	

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

BS / BSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order #: 580872, 580872 **Project ID:**

Analyst: PGM **Date Prepared:** 03/30/2018 **Date Analyzed:** 04/03/2018

Lab Batch ID: 3045557 **Sample:** 7641816-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Diesel Range Organics (DRO)	<25.0	100	88.2	88	100	85.2	85	3	63-139	20	

Analyst: MIT **Date Prepared:** 03/30/2018 **Date Analyzed:** 03/30/2018

Lab Batch ID: 3045385 **Sample:** 7641838-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH-GRO	<4.00	20.0	18.8	94	20.0	19.0	95	1	35-129	20	

Analyst: MIT **Date Prepared:** 03/30/2018 **Date Analyzed:** 03/31/2018

Lab Batch ID: 3045396 **Sample:** 7641839-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH-GRO	<4.00	20.0	18.3	92	20.0	19.0	95	4	35-129	20	

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

BS / BSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order #: 580872, 580872 **Project ID:**

Analyst: MIT **Date Prepared:** 03/30/2018 **Date Analyzed:** 04/01/2018

Lab Batch ID: 3045401 **Sample:** 7641840-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH-GRO	<4.00	20.0	17.7	89	20.0	18.5	93	4	35-129	20	

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

Form 3 - MS / MSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order # : 580872 **Project ID:**

Lab Batch ID: 3045382 **QC- Sample ID:** 580872-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/31/2018 **Date Prepared:** 03/30/2018 **Analyst:** MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0199	1.99	1.79	90	1.93	1.85	96	3	54-120	25	
Toluene	<0.0199	1.99	1.95	98	1.93	1.90	98	3	57-120	25	
Ethylbenzene	<0.0199	1.99	2.08	105	1.93	2.03	105	2	58-131	25	
m,p-Xylenes	<0.0398	3.98	4.13	104	3.87	4.05	105	2	62-124	25	
o-Xylene	<0.0199	1.99	2.02	102	1.93	1.99	103	1	62-124	25	

Lab Batch ID: 3045383 **QC- Sample ID:** 580872-017 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/31/2018 **Date Prepared:** 03/30/2018 **Analyst:** MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0190	1.90	1.81	95	1.90	1.68	88	7	54-120	25	
Toluene	<0.0190	1.90	1.83	96	1.90	1.81	95	1	57-120	25	
Ethylbenzene	<0.0190	1.90	1.86	98	1.90	1.90	100	2	58-131	25	
m,p-Xylenes	<0.0380	3.80	3.71	98	3.80	3.77	99	2	62-124	25	
o-Xylene	<0.0190	1.90	1.85	97	1.90	1.85	97	0	62-124	25	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order # : 580872 **Project ID:**

Lab Batch ID: 3045384 **QC- Sample ID:** 580872-051 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/01/2018 **Date Prepared:** 03/30/2018 **Analyst:** MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0191	1.91	1.81	95	1.85	1.75	95	3	54-120	25	
Toluene	<0.0191	1.91	1.85	97	1.85	1.79	97	3	57-120	25	
Ethylbenzene	<0.0191	1.91	1.95	102	1.85	1.83	99	6	58-131	25	
m,p-Xylenes	<0.0382	3.82	3.91	102	3.69	3.65	99	7	62-124	25	
o-Xylene	<0.0191	1.91	1.92	101	1.85	1.81	98	6	62-124	25	

Lab Batch ID: 3045630 **QC- Sample ID:** 580872-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/03/2018 **Date Prepared:** 04/03/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	141	250	392	100	250	403	105	3	80-120	20	

Lab Batch ID: 3045630 **QC- Sample ID:** 580872-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/03/2018 **Date Prepared:** 04/03/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	87.6	250	304	87	250	314	91	3	80-120	20	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order # : 580872 **Project ID:**

Lab Batch ID: 3045634 **QC- Sample ID:** 580872-021 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/03/2018 **Date Prepared:** 04/03/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	139	250	781	257	250	796	263	2	80-120	20	X

Lab Batch ID: 3045703 **QC- Sample ID:** 580872-031 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/04/2018 **Date Prepared:** 04/03/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	393	250	603	84	250	608	86	1	80-120	20	

Lab Batch ID: 3045705 **QC- Sample ID:** 580872-041 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/04/2018 **Date Prepared:** 04/03/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<50.0	250	262	105	250	261	104	0	80-120	20	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order # : 580872 **Project ID:**

Lab Batch ID: 3045705 **QC- Sample ID:** 580872-051 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/04/2018 **Date Prepared:** 04/03/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	251	100	250	247	99	2	80-120	20	

Lab Batch ID: 3045707 **QC- Sample ID:** 580872-054 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/05/2018 **Date Prepared:** 04/03/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	272	109	250	274	110	1	80-120	20	

Lab Batch ID: 3045398 **QC- Sample ID:** 580872-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/30/2018 **Date Prepared:** 03/30/2018 **Analyst:** PGM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Diesel Range Organics (DRO)	<24.9	99.5	89.7	90	99.4	94.3	95	5	63-139	20	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order # : 580872 **Project ID:**

Lab Batch ID: 3045526 **QC- Sample ID:** 580872-021 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/02/2018 **Date Prepared:** 03/30/2018 **Analyst:** PGM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Diesel Range Organics (DRO)	<25.2	101	90.1	89	101	99.8	99	10	63-139	20	

Lab Batch ID: 3045557 **QC- Sample ID:** 580872-041 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/03/2018 **Date Prepared:** 03/30/2018 **Analyst:** PGM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Diesel Range Organics (DRO)	<25.1	101	101	100	100	107	107	6	63-139	20	

Lab Batch ID: 3045385 **QC- Sample ID:** 580872-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/31/2018 **Date Prepared:** 03/30/2018 **Analyst:** MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH-GRO	<3.98	19.9	15.8	79	20.0	15.7	79	1	35-129	20	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order # : 580872 **Project ID:**

Lab Batch ID: 3045396 **QC- Sample ID:** 580872-017 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/31/2018 **Date Prepared:** 03/30/2018 **Analyst:** MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH-GRO	<3.88	19.4	14.9	77	19.5	15.4	79	3	35-129	20	

Lab Batch ID: 3045401 **QC- Sample ID:** 580872-051 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/01/2018 **Date Prepared:** 03/30/2018 **Analyst:** MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH-GRO	<3.73	18.7	14.2	76	19.6	15.5	79	9	35-129	20	

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

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

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

CHAIN OF CUSTODY

1 of 6

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

580872

Xenco Quote # | Xenco Job #

Client / Reporting Information

Company Name / Branch: TRC Environmental
Company Address: 10 Desta Drive Suite 150E, Midland, TX 79705
Email: jlowry@trcsolutions.com
Phone No:
Project Contact: Joel Lowry
Samplers's Name Joel Lowry

Project Information

Project Name/Number:
Project Location: Lea County, NM
Invoice To: COG Operating, LLC, CO Becky Haskell
Invoice: COG

Analytical Information

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	Chloride	BTEX 8021	TPH 8015 M	Field Comments
1	SP-1 FL-1		3/28/18		S	1									X	X	X	1
2	SP-1 FL-2															X	X	2
3	SP-1 FL-3															X	X	3
4	SP-1 FL-4															X	X	4
5	SP-1 FL-5															X	X	5
6	SP-1 FL-6															X	X	6
7	SP-1 FL-7															X	X	7
8	SP-1b FL-1															X	X	8
9	SP-1b NSW																	9
10	SP-1b ESW																	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

- [ ] 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: jlowry, zconder, rhaskell

FED-EX / UPS: Tracking #

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

	Relinquished by Samplers	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Becky Gatt	3/29/18 1:40		2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
6	Relinquished by: Josh Dobbs 3/29/18 17:20	Date Time: 3/29/18 17:20	Received By: 5 Brenda Ward	Custody Seal #	Preserved where applicable: F	On Ice: ✓ Cooler Temp.: 3.1/3.4 Thermo. Corr. Factor: IR-3

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

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

CHAIN OF CUSTODY

Page 1 Of 1

2 of 6

Xenco Quote #

Xenco Job # 580872

Client / Reporting Information

Company Name / Branch: TRC Environmental
Company Address: 10 Desta Drive Suite 150E, Midland, TX 79705
Email: jlowry@trcsolutions.com
Phone No:
Project Contact: Joel Lowry
Samplers's Name Joel Lowry

Project Information

Project Name/Number:
Project Location: Lea County, NM
Invoice To: COG Operating, LLC, CO Becky Haskell
Invoice: COG

Analytical Information

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	Chloride	BTEX 8021	TPH 8015 M	Field Comments
1	SP-1 WSW1		3/29/18		S	1									X		X	11
2	SP-1 WSW2																X	12
3	SP-2 @ 5'														X		X	13
4	SP-2 FL @ 6'															X	X	14
5	SP-2 NWSW																X	15
6	SP-2 ESW																X	16
7	SP-3 FL-1															X	X	17
8	SP-3 NSW																X	18
9	SP-3 ESW																X	19
10	SP-3 SSW														N		X	20

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

- [ ] 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: jlowry, zconder, rhaskell

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	Rocky Ott	3-29-18 1:40		2		2
	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3			3	4		4
5	Relinquished by: Kathi Beckham 3/29/18 17:20	Date Time: 3/29/18 17:20	Received By: 6 Brenda Ward	~~Custody Seal #~~	Preserved where applicable	On Ice ✓ Cooler Temp. 3.4 3.4 Thermo. Corr. Factor IR-3

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

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

CHAIN OF CUSTODY

Page 1 Of 1

3 of 6

Xenco Quote #

Xenco Job # 580872

Client / Reporting Information

Company Name / Branch: TRC Environmental

Company Address: 10 Desta Drive Suite 150E, Midland, TX 79705

Email: jlowry@trcsolutions.com

Phone No:

Project Contact: Joel Lowry

Samplers's Name Joel Lowry

Project Information

Project Name/Number:

Project Location: Lea County, NM

Invoice To: COG Operating, LLC, CO Becky Haskell

Invoice: COG

Analytical Information

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	Chloride	BTEX 8021	TPH 8015 M	Field Comments
1	SP-1b SSW		3/28/18		S	1									X		X	21
2	SP-1b WSW																	22
3	SP-1 NSW1																	23
4	SP-1 NSW2																	24
5	SP-1 NSW3																	25
6	SP-1 ESW1																	26
7	SP-1 ESW2																	27
8	SP-1 SSW1																	28
9	SP- 1 SSW2																	29
10	SP-1 SSW3																	30

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

- [ ] 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:

jlowry, zconder, rhaskell

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	Becky Gatt	3/29-18 1:45		2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time: 3/29/18 17:20	Received By:	Custody Seal #	Preserved where applicable	On Ice: ✓ Cooler Temp. 3.4/3.4 Thermo. Corr. Factor FR3

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

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

CHAIN OF CUSTODY

Page 1 Of 1

4 of 6

Xenco Quote #

Xenco Job # 580 872

Client / Reporting Information

Company Name / Branch: TRC Environmental

Company Address: 10 Desta Drive Suite 150E, Midland, TX 79705

Email: jlowry@trcsolutions.com

Phone No:

Project Contact: Joel Lowry

Samplers's Name Joel Lowry

Project Information

Project Name/Number:

Project Location: Lea County, NM

Invoice To: COG Operating, LLC, CO Becky Haskell

Invoice: COG

Analytical Information

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	Chloride	BTEX 8021	TPH 8015 M	Field Comments
1	SP-3 WSW		3/28/18		S	1									X		X	31
2	SP-4 FL-1															X		32
3	SP-4 FL-2														X	X		33
4	SP-4 FL-3															X		34
5	SP-4 FL-4															X		35
6	SP-4 FL-5															X		36
7	SP-4 NSW1																	37
8	SP-4 NSW2																	38
9	SP-4 NSW-3																	39
10	SP-4 ESW																	40

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

- [ ] 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: jlowry, zconder, rhaskell

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	Becky Gw	3-29-18 1:45		2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time: 3-31-18	Received By: 6 Brenda Ward	Custody Seal #	Preserved where applicable	On Ice: ✓ Cooler Temp. 3.4/3.4 Thermo. Corr. Factor IR

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

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

CHAIN OF CUSTODY

Page 1 Of 1

5 of 6

580872

Xenco Quote #	Xenco Job # 580872

Client / Reporting Information

Company Name / Branch: TRC Environmental

Company Address: 10 Desta Drive Suite 150E, Midland, TX 79705

Email: jlowry@trcsolutions.com Phone No:

Project Contact: Joel Lowry

Samplers's Name Joel Lowry

Project Information

Project Name/Number:

Project Location: Lea County, NM

Invoice To: COG Operating, LLC, CO Becky Haskell

Invoice: COG

Analytical Information

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	Chloride	BTEX 8021	TPH 8015 M	Field Comments
1	SP-4 ESW2		3/29/18		S	1									X		X	41
2	SP-4 SSW1																X	42
3	SP-4 SSW2														X		X	43
4	SP-4 SSW3																X	44
5	SP-4 WSW1																X	45
6	SP-4 WSW2																X	46
7	SP-4 WSW3																X	47
8	SP-5 FL1 @ 4'															X	X	48
9	SP-5 FL2															X	X	49
10	SP5 NSW		W		W										V		X	50

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

- [ ] 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: jlowry, zconder, rhaskell

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	Becky Gott	3-29-18 1:40		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
		3/29/18 17:20	5 Brenda Ward			✓ 3.4 / 3.4 / IR-3

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

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

CHAIN OF CUSTODY

Page 1 Of 1

6 of 6

580872

Xenco Quote #	Xenco Job # 580872

Client / Reporting Information

Company Name / Branch: TRC Environmental
Company Address: 10 Desta Drive Suite 150E, Midland, TX 79705
Email: jlowry@trcsolutions.com
Phone No:
Project Contact: Joel Lowry
Samplers's Name Joel Lowry

Project Information

Project Name/Number:
Project Location: Lea County, NM
Invoice To: COG Operating, LLC, CO Becky Haskell
Invoice: COG

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: Chloride	BTEX 8021	TPH 8015 M	Field Comments
1	SP-5 ESW		3/28/18		S	1									X	X	X	51
2	SP-5 SSW-1		"		"	"									X		X	52
3	SP-5 SSW-2		"		"	"									X		X	53
4	SP-5 WSW		"		"	"									X		X	54
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

- [ ] 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: jlowry, zconder, rhaskell

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	Becky	3-29-18 11:40		2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
				3		3
5	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
		3/29/18 17:20	Brandal Ward	4		4

Custody Seal # | Preserved where applicable | On Ice: Y | Cooler Temp.: 3 / 3.4 | Thermo. Corr. Factor: IR-3

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.

CHAIN OF CUSTODY

XENCO LABORATORIES

Setting the Standard since 1990

Page ___ Of ___

Revision 2016.1

Stafford, TX (281) 240-4200
Dallas, TX (214) 902-0300
El Paso, TX (915) 585-3443
Lubbock, TX (806) 794-1296
Midland, TX (432) 704-5440
San Antonio, TX (210) 509-3334
Phoenix, AZ (480) 355-0900
Service Center - Baton Rouge, LA (832) 712-8143
Service Center- Amarillo, TX (806)678-4514
Service Center- Hobbs, NM (575) 392-7550
www.xenco.com

Xenco Quote #

Xenco Job # 580872

Client / Reporting Information

Company Name / Branch: CINTAS

Company Address: P.O. Box 15126 1335 Kress 77020 77220

Email: CERVANTESTO@CINTAS.com

Phone No: 7136160261

Project Contact: TOMAS CERVANTES

Samplers's Name: KENT STANLEY

Project Information

Project Name/Number: Dumpster Cake Sludge

Project Location: PLANT 81

Invoice To: CINTAS

PO Number: 4659346

Analytical Information

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	TCLP Metals	TCLP Volatiles	TCLP Semi-Volatiles	TCLP Pesticides
1	Dumpster Cake Sludge	Surface	3/29/18	3 PM	SL	1									X	X	X	X
2	Dumpster Cake Sludge																	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

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

SL

Preservative ICE

Field Comments

5805920001

Turnaround Time (Business days)

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

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

Data Deliverable Information

- [ ] 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
- [ ] Level II Report with TRRP checklist

Notes:

Run According govt's Houston Requirements

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	Ken Stanley	3/29/ 3:15	1 Ken Stanley	2 TOMAS CERVANTES	03/29/18 3:15	2
3	Relinquished by: Ken Stanley 3/29/18 15:30	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time: 3/30/18 9:45	Received By: 5	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. 1R / Thermo. Corr. Factor 4.3/4.3

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 losses 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: 03/29/2018 05:20:00 PM

Work Order #: 580872

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

Temperature Measuring device used : IR-3

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 03/29/2018
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 03/30/2018
Jessica Kramer

Analytical Report 581752

for

TRC Solutions, Inc

Project Manager: Joel Lowry

Lusk Deep Unit #029H

13-APR-18

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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

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

13-APR-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **581752**
Lusk Deep Unit #029H
Project Address: Lea Co., N.M.

Joel Lowry:

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) 581752. 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. 581752 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 581752

TRC Solutions, Inc, Midland, TX

Lusk Deep Unit #029H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1 FL-7 @ 2'	S	04-06-18 13:00	2 ft	581752-001

CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Lusk Deep Unit #029H

Project ID:
Work Order Number(s): *581752*

Report Date: *13-APR-18*
Date Received: *04/06/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 581752

TRC Solutions, Inc, Midland, TX

Project Name: Lusk Deep Unit #029H

Project Id:
Contact: Joel Lowry
Project Location: Lea Co., N.M.

Date Received in Lab: Fri Apr-06-18 04:40 pm
Report Date: 13-APR-18
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	581752-001					
	Field Id:	SP-1 FL-7 @ 2'					
	Depth:	2- ft					
	Matrix:	SOIL					
	Sampled:	Apr-06-18 13:00					
Chloride by EPA 300	***Extracted:***	Apr-10-18 10:30					
	Analyzed:	Apr-11-18 12:29					
	Units/RL:	mg/kg	RL				
Chloride		204	25.0				

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Final 1.000

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

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

BS / BSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order #: 581752 **Project ID:**

Analyst: RNL **Date Prepared:** 04/10/2018 **Date Analyzed:** 04/11/2018

Lab Batch ID: 3046463 **Sample:** 7642472-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	251	100	250	252	101	0	90-110	20	

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

Form 3 - MS / MSD Recoveries

Project Name: Lusk Deep Unit #029H

Work Order # : 581752 **Project ID:**

Lab Batch ID: 3046463 **QC- Sample ID:** 581747-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/11/2018 **Date Prepared:** 04/10/2018 **Analyst:** RNL

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<25.0	250	257	103	250	258	103	0	80-120	20	

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

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

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

CHAIN OF CUSTODY

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

581752

Xenco Job # 581752

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation
Company Address: 2057 Commerce Drive, Midland, TX 79703
Email: jlowry@trcsolutions.com; zconder@trcsolutions.com
Phone No: 432-466-4450
Project Contact: Joel Lowry
Sampler's Name: Zach Conder

Project Information

Project Name/Number: Lusk Deep Unit #029H
Project Location: LEA Co, NM
Invoice To: COG Operating C/O Becky Haskell
Invoice:

Analytical Information

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	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold
1	SP-1 FL-7 @ 2'	2'	4/6/2018	13:00	S	1										X		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

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

Field Comments: /

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

- [ ] 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:

jlowry@trcsolutions.com; zconder@trcsolutions.com; rhaskell@concho.com; kblackburn@trcsolutions.com; dneel2@concho.com

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			1	2		2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time: 4/6/18 4:40	Received By: 5 Brenda Wood	Custody Seal #	Preserved where applicable	On Ice: ✓ Cooler Temp.: 4.5 Thermo. Corr. Factor: IR-3

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: 04/06/2018 04:40:00 PM

Work Order #: 581752

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

Temperature Measuring device used : IR-3

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 04/06/2018
Brenda Ward

Checklist reviewed by: Kelsey Brooks Date: 04/11/2018
Kelsey Brooks

Photographic Log

Client: COG Operating, LLC
Project Name: Lusk Deep Unit A #029H

Prepared by: TRC Environmental Corp.
Location: Lea County, NM

Photograph No. 1 **Description:** **View of surface staining from the initial release.** **Direction:** **South**	
Photograph No. 2 **Description:** **View of surface staining from the initial release.** **Direction:** **North**	

Photographic Log

Client: COG Operating, LLC
Project Name: Lusk Deep Unit A #029H

Prepared by: TRC Environmental Corp.
Location: Lea County, NM

Photograph No. 3 **Description:** **View of portion of the excavated area.** **Direction:** **Southwest**	
Photograph No. 4 **Description:** **View of portion of the excavated area.** **Direction:** **North**	

Photographic Log

Client: COG Operating, LLC
Project Name: Lusk Deep Unit A #029H

Prepared by: TRC Environmental Corp.
Location: Lea County, NM

Photograph No. 5 **Description:** **View of portion of the excavated area.** **Direction:** **South**	
Photograph No. 6 **Description:** **View of portion of the excavated area.** **Direction:** **North**	

Photographic Log

Client: COG Operating, LLC
Project Name: Lusk Deep Unit A #029H

Prepared by: TRC Environmental Corp.
Location: Lea County, NM

Photograph No. 7 **Description:** **View of portion of the excavated area.** **Direction:** **West**	
Photograph No. 8 **Description:** **View of the affected area after remediation activities.** **Direction:** **Northeast**	

Photographic Log

Client: COG Operating, LLC
Project Name: Lusk Deep Unit A #029H

Prepared by: TRC Environmental Corp.
Location: Lea County, NM

Photograph No. 9 **Description:** **View of delineation activities.** **Direction:** **East**	
Photograph No. 10 **Description:** **View of delineation activities.** **Direction:** **South**	

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: **COG Operating, LLC** (OGRID# 229137)	Contact: **Robert McNeill**
Address: **600 West Illinois Avenue, Midland TX 79701**	Telephone No.: **432-683-7443**
Facility Name: **Lusk Deep Unit A #029H**	Facility Type: **Well**

Surface Owner: BLM	Mineral Owner: Federal	API No.: 30-025-41563

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	17	19S	32E	355	North	660	West	Lea

Latitude: 32.6667595 **Longitude:** -103.7948532 NAD83

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 10bbls Oil & 20bbls PW	Volume Recovered: 8bbls Oil & 10bbls PW
Source of Release: Suction Line	Date and Hour of Occurrence: 11/24/2017 6:30am	Date and Hour of Discovery: 11/24/2017 6:30am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Oliva Yu-NMOCD Shelly Tucker-BLM	
By Whom? Sheldon Hitchcock	Date and Hour: 11/24/2017 11:33am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
By Olivia Yu at 9:19 am, Nov 28, 2017

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Bands on 4" suction line failed resulting in a release onto the well pad and into the adjacent pasture. The suction line was repaired.

Describe Area Affected and Cleanup Action Taken.*

The release impacted the well pad and the adjacent pasture. A vacuum truck was dispatched to recover all freestanding fluids. Concho will have the spill area evaluated for any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

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: Sheldon Hitchcock	OIL CONSERVATION DIVISION
Printed Name: Sheldon L. Hitchcock	Approved by Environmental Specialist:
Title: HSE Coordinator	Approval Date: 11/28/2017 Expiration Date:
E-mail Address: slhitchcock@concho.com	Conditions of Approval: see attached directive ☑ Attached
Date: 11/27/2017 Phone: 575-746-2010	

* Attach Additional Sheets If Necessary

1RP-4882 nOY1733234682

pOY1733234867

State of New Mexico
Oil Conservation Division

Incident ID	nOY1733234682
District RP	1RP-4882
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☑ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☑ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☑ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☑ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Charles R. Beauvais II Title: Senior Environmental Engineer

Signature: Charles R. Beauvais II Date: 12/20/2022

email: charles.r.beauvais@conocophillips.com Telephone: 575-988-2043

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Brittany Hall Date: 12/21/2022

Printed Name: Brittany Hall Title: Environmental Specialist

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: **COG Operating, LLC** (OGRID# 229137)	Contact: **Robert McNeill**
Address: **600 West Illinois Avenue, Midland TX 79701**	Telephone No.: **432-683-7443**
Facility Name**: Lusk Deep Unit A #029H**	Facility Type**: Well**

Surface Owner: BLM	Mineral Owner: Federal	API No.: 30-025-41563

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	17	19S	32E	355	North	660	West	Lea

Latitude: 32.6667595 **Longitude**: -103.7948532 NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 15 bbls PW	Volume Recovered: 10bbls PW
Source of Release: Water Seal	Date and Hour of Occurrence: 12/16/2017 6:00am	Date and Hour of Discovery: 12/16/2017 6:00am
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By Olivia Yu at 2:33 pm, Dec 18, 2017

Describe Cause of Problem and Remedial Action Taken.*

The shaft on the H-pump twisted off causing the water seal to leak and release produced water onto the well pad. The pump will be removed and replaced.

Describe Area Affected and Cleanup Action Taken.*

The release impacted the well pad. A vacuum truck was dispatched to recover all freestanding fluids. Concho will have the spill area evaluated for any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

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: Dakota Neel

Printed Name: Dakota Neel

Title: HSE Coordinator

E-mail Address dneel2@concho.com

Date: 12/17/2017 Phone: 575-746-2010

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 12/18/2017 Expiration Date:

Conditions of Approval:

see attached directive

Attached ☑

* Attach Additional Sheets If Necessary

1RP-4897 nOY1735252600 pOY1735252768

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 169307

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 169307
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	12/21/2022