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November 10, 2017

Mike Bratcher
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District II
811 South First St.
Artesia, NM 88210

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

Re: Soil Investigation Summary and Proposed Remediation Workplan
Owl 20504 JV-P #005 SWD (1RP-4357)
GPS: N 32.0414886° W 104.2282181°
Unit Letter "J", Section 18, Township 26 South, Range 27 East
Eddy County, New Mexico

Dear Mr. Bratcher and Ms. Price,

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG) has prepared this *Soil Investigation Summary and Proposed Remediation Workplan* (Workplan) for the Owl 20504 JW-P #005 SWD Release Site (Release Site). The purpose of this Workplan is to propose remediation activities designed to advance the Release Site toward a New Mexico Oil Conservation Division (NMOCD) and United States Bureau of Land Management (BLM) approved Site Closure Status. The legal description of the Release Site is Unit Letter "J", Section 18, Township 26 South, Range 27 East, in Eddy County, New Mexico. The GPS coordinates for the site are N 32.0414886° W 104.2282181°. The subject property is administered by the BLM. A "Site Location Map" and "Site & Sample Location Map" are provided as Figure 1 and Figure 2, respectively.

On August 21, 2017, the COG Owl 20504 JV-P #005 Salt Water Disposal was struck by lightning, resulting in the total loss of the facility and the release of approximately seventy (70) barrels (bbls) of crude oil and five hundred (500) bbls of produced water. During initial response activities, a vacuum truck was utilized to recover approximately forty (40) bbls of crude oil and six hundred (600) bbls of water; portions of the recovered water reflect produced water, rain water and water used by the fire department. The release affected an area on the caliche well pad measuring approximately 27,000 square feet (sq. ft.) and approximately 50,000 sq. ft. of adjacent pasture land. Upon discovering the release, a COG representative

verbally notified the NMOCD and BLM and a Release Notification and Corrective Action (Form C-141) was submitted to the NMOCD on August 28, 2017. The Form C-141 is attached to this report.

NMOCD Site Classification

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 18, Township 26 South, Range 27 East. A reference map utilized by the NMOCD Hobbs District Office indicates groundwater should be encountered between twenty-five (25) and fifty (50) feet below ground surface (bgs). Review of historical documentation related to previous remediation activities conducted at the site suggests groundwater is greater than one hundred (100) feet bgs based on the difference in elevation (~100 feet) between the Site and wells located near a draw approximately four thousand, nine hundred (4,900) feet north of the site within Sections 5 and 7, of Township 26 South, Range 27 East. Based on these observations, the presence of elevated chloride concentrations at six (6) feet bgs, and the change in relief between the release point and flow path terminus (~30 feet), ten (10) points will be assigned to the subject area as a result of this criterion. Please reference the *Work Plan/Closure Report* dated September 15, 2015, and associated correspondence that was prepared for 2RP-3104 for additional details regarding the depth to groundwater.

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 Recommended Remediation Action Levels (RRAL) are 10 mg/kg for benzene, 50 mg/kg for benzene, toluene, ethylbenzene and xylenes (BTEX), and one thousand (1,000) mg/kg for total petroleum hydrocarbons (TPH). Per NMOCD request, chloride remediation levels for the Release Site will be 600 mg/kg.

Field Activities

On October 3, 2017, TRC conducted an initial assessment at the site. During the initial assessment, a series of delineation trenches (TT-1 through TT-13) were advanced within the release margins. Delineation trenches TT-1 through TT-5 were advanced within the affected area on the caliche well pad. Delineation trenches TT-6 through TT-13 were advanced within the affected pasture area. During the advancement of the delineation trenches, soil samples were collected at varying depths ranging from the surface to eight (8) ft. bgs depending on refusal depth due to the local geology. The collected soil samples were submitted to Xenco Laboratories in Midland, Texas for determination of chloride concentrations using Method E300. Soil samples collected from the surface, one (1) foot bgs and the deepest interval were also analyzed for concentrations of BTEX using Method SW 846-8021B and TPH using Method SW 846-8015M.

Laboratory analytical results from soil samples collected on the caliche production pad indicated soil was not affected above the NMOCD RRAL for chloride beyond three (3) ft. bgs in the area

characterized by test trench TT-5 and eight (8) ft. bgs in the areas characterized by test trench TT-1 and TT-4. During the advancement of test trenches TT-2 and TT-3 a plastic liner was encountered at approximately three (3) feet bgs. Review of historical documentation related to previous remediation activities conducted at the site indicate a liner was installed during an approved risk-based closure related to 2RP-1599. In addition, evidences of a historical drilling reserve pit were encountered in the northern portion of the production pad. Collection of additional soil samples from test trenches TT-2 and TT-3 was precluded in an effort to maintain the liner's integrity. Please reference the 2RP-1599 *Closure Report for the COG Operating, LCC., Owl 20504 JV-P Well #5*, dated October 23, 2013, for additional details regarding the previous risk-based closure and historical drilling reserve pit.

Analytical results from soil samples collected on the caliche production pad indicated benzene, BTEX, and TPH concentrations were below the NMOCD RRAL in each of the analyzed soil samples with exception of soil samples TT-3 @ Surface and TT-3 @ 1', which exhibited TPH concentrations of 6,650 mg/kg and 2,704 mg/kg, respectively.

Laboratory analytical results from soil samples collected from within the affected pasture indicated benzene, BTEX and TPH concentrations were below the NMOCD RRAL in each of the analyzed soil samples. Analytical results indicated chloride concentrations were below the NMOCD RRAL in each of the submitted soil samples with the exception of soil samples TT-6 @ 1', TT-7 @ 2' and TT-10 @ 1', which exhibited chloride concentrations of 1,740 mg/kg, 710 mg/kg and 1,760 mg/kg, respectively.

In addition, eight (8) soil samples (North #1, North #2, North #3, South #1, South #2, South #3, East #1 and West #1) were collected from the inferred edges of the affected area and submitted to the laboratory for analysis of benzene, BTEX, TPH and chloride. Laboratory analytical results indicated benzene, BTEX and TPH concentrations were below the NMOCD RRAL in each of the submitted soil samples. Analytical results indicated chloride concentrations were below the NMOCD RRAL in each of the submitted soil samples with the exception of soil samples East #1 and West #1, which exhibited chloride concentrations of 1,370 mg/kg and 9,470 mg/kg, respectively.

During the advancement of test trenches within the affected pasture a considerable amount of viable vegetation was noted within the release margins. Several relatively small areas were also noted as exhibiting hydrocarbon staining, which appear to have been limited to shallow soils. In an effort to characterized hydrocarbon impacts within the affected pasture, five (5) soil samples (OS #1 @ 0-6", OS #1 @ 6-12", OS #1 @ 3', OS #2 @ 0-6" and OS #2 @ 6-12") were collected from select hydrocarbon stained areas inferred to have been the most heavily impacted. The collected soil samples were submitted to the laboratory for analysis of benzene, BTEX, TPH and chloride. Laboratory analytical results indicated benzene and BTEX concentrations were less than the applicable laboratory reporting limit (RL) in each of the submitted soil samples. Analytical results indicated TPH concentrations were below the NMOCD RRAL in each of the submitted soil samples with the exception of OS #1 @ 0-6" and OS #2 @ 0-6", which exhibited TPH concentrations of 28,160 mg/kg and 2,969 mg/kg, respectively. Chloride concentrations ranged from 6,600 mg/kg in soil sample OS #1 @ 0-6" to less than the laboratory RL in soil sample OS #1 @ 3'. Based on laboratory analytical results from the collected soil samples, hydrocarbon impacts appear to be largely limited to the surface in the areas characterized by sample points OS #1 and OS #2.

PROPOSED CLOSURE STRATEGY

Based on field observations, laboratory analytical results and the presence of the liner(s) associated with a historical risk-based closure and/or drilling reserve pit, COG proposes the following field activities designed to advance the Owl 20504 JV-P #005 SWD release site toward a BLM- and NMOCD-approved closure:

Caliche Production Pad

- Utilizing mechanical equipment, excavate the affected area on the caliche production pad characterized by test trenches TT-1 through TT-5, to approximately three (3) feet bgs, or until the liner and/or historic drilling reserve pit are encountered, whichever is less. COG maintains additional excavation may compromise the existing remediation designs. A “Proposed Excavation Map” is provided as Figure 3.
- Advance the sidewalls of the excavation until laboratory analytical results from confirmation soil samples indicate affected soil exhibiting benzene, BTEX, TPH and/or chloride concentrations has been removed.
- Upon excavating impacted soil on the caliche production pad, install a 20-millimeter polyurethane liner atop impacted soil exhibiting benzene, BTEX, TPH and/or chloride concentrations above the NMOCD RRAL. The liner will be extended over portions of the previous risk-based closure and/or drilling reserve pit, as necessary. This engineering control is designed to inhibit the vertical migration of contaminants left in-situ, by shedding moisture to the outside edges of the liner beyond the maximum horizontal extent of underlying impacted soil. The liner will be cushioned by an approximate six (6) inch layer of pad sand above and below the liner in an effort to maintain its integrity during backfilling activities.

Pasture Area

- Excavate the affected areas characterized by localized hydrocarbon staining until laboratory analytical results from excavation confirmation soil samples indicate impacted soil exhibiting benzene, BTEX, TPH and chloride concentrations above the NMOCD RRAL has been removed.
- Excavate the affected area characterized by test trench TT-6 to a depth of approximately two (2) feet bgs. The excavation sidewalls will be advanced until laboratory analytical results from confirmation soil samples indicate impacted soil exhibiting benzene, BTEX, TPH and chloride concentrations above the NMOCD RRAL has been removed.
- Excavate the affected area characterized by test trench TT-7 to a depth of approximately three (3) feet bgs. The excavation sidewalls will be advanced until laboratory analytical results from confirmation soil samples indicate impacted soil exhibiting benzene, BTEX, TPH and chloride concentrations above the NMOCD RRAL has been removed.
- Excavate the affected area characterized by sample point OS #1 to a depth of up to three (3) feet bgs. The excavation sidewalls will be advanced until laboratory analytical results from confirmation soil samples indicate impacted soil exhibiting benzene, BTEX, TPH and chloride concentrations above the NMOCD RRAL has been removed.
- Excavate the affected area characterized by test trench TT-10 to a depth of approximately two (2) feet bgs. The excavation sidewalls will be advanced until laboratory analytical results from

confirmation soil samples indicate impacted soil exhibiting benzene, BTEX, TPH and chloride concentrations above the NMOCD RRAL has been removed.

- Excavate the affected area characterized by sample point OS #2 to a depth beyond one (1) foot bgs. The floor and sidewalls will be advanced until laboratory analytical results from confirmation soil samples indicate impacted soil exhibiting benzene, BTEX, TPH and chloride concentrations above the NMOCD RRAL has been removed.
- Excavate the affected area characterized by sample point East #1 until laboratory analytical results from confirmation soil samples indicate impacted soil exhibiting benzene, BTEX, TPH and chloride concentrations above the NMOCD RRAL has been removed.
- Upon receiving laboratory analytical results from excavation confirmation soil samples, the excavated areas will be backfilled with non-impacted, "like" material.
- Excavated impacted soil affected above the NMOCD RRAL will be transported under manifest to an NMOCD-approved disposal facility.
- Upon completion of remediation activities and receipt of laboratory analytical results from confirmation soil samples, a "Remediation Summary and Risk-Based Site Closure Request" will be prepared and submitted to the NMOCD and BLM detailing remediation activities and laboratory analytical results from confirmation soil samples.

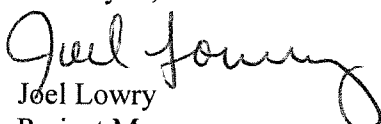
ALTERNATIVE CLOSURE STRATEGY

- Considerations may be given to limiting excavation activities within the affected pasture to the hydrocarbon stained areas based on the abundance of viable native vegetation within the release margins and laboratory analytical data indicating a majority of the area was not affected above the NMOCD RRAL for chloride. Laboratory analytical results from soil samples collected from each of the test trenches (TT-6 through TT-13) advanced in non-hydrocarbon stained areas within the affected pasture indicate chloride concentrations were below the NMOCD RRAL in each of the submitted soil samples with the exception of TT-6 @ 1' (1,740 mg/kg), TT-7 @ 2' (710 mg/kg) TT-10 @ 1' (1,760 mg/kg) and East #2 @ 1' (1,370 mg/kg). Higher-elevated chloride concentrations appear to occur in conjunction with hydrocarbon impacts as evident in soil samples collected from hydrocarbon stained areas OS #1 and OS #2. This may be related to the abundance of rainwater from the thunderstorm causing the release and/or the freshwater used by emergency response personnel.

COG is prepared to begin the activities outlined in this *Soil Investigation Summary and Proposed Remediation Workplan* on receiving NMOCD and BLM approval.

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

Thank you,


Joel Lowry
Project Manager
TRC Environmental Corporation


Jeffrey Kindley, PG
Senior Project Manager
TRC Environmental Corporation

Attachments:

Figure 1 - Site Location Map

Figure 2 – Site & Sample Location Map

Figure 3 – Proposed Excavation Map

Table 1 - Concentrations of Benzene, BTEX, TPH and Chloride in Soil

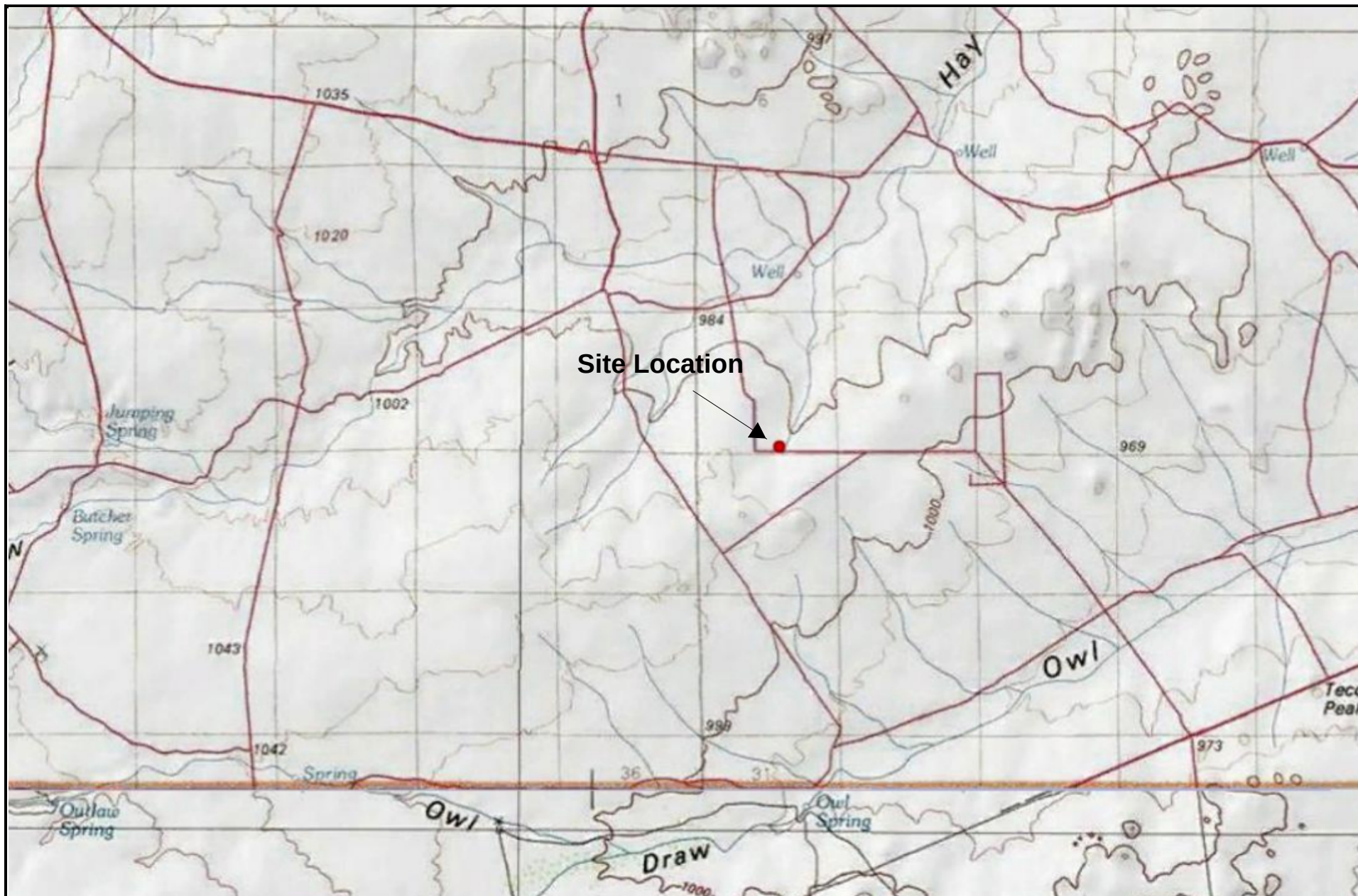
Laboratory Analytical Results

Photographic Log

Release Notification and Corrective Action (Form C-141)

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

File



LEGEND:

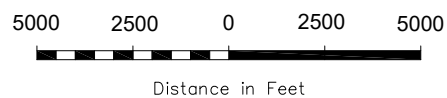


Figure 1

Site Location Map
 COG Operating, LLC
 Owl 20504 JV-P #005 SWD
 Eddy County, NM

Scale 1" = 5,000'

Drafted By: JL | Checked By: CS

Draft: October 23, 2017

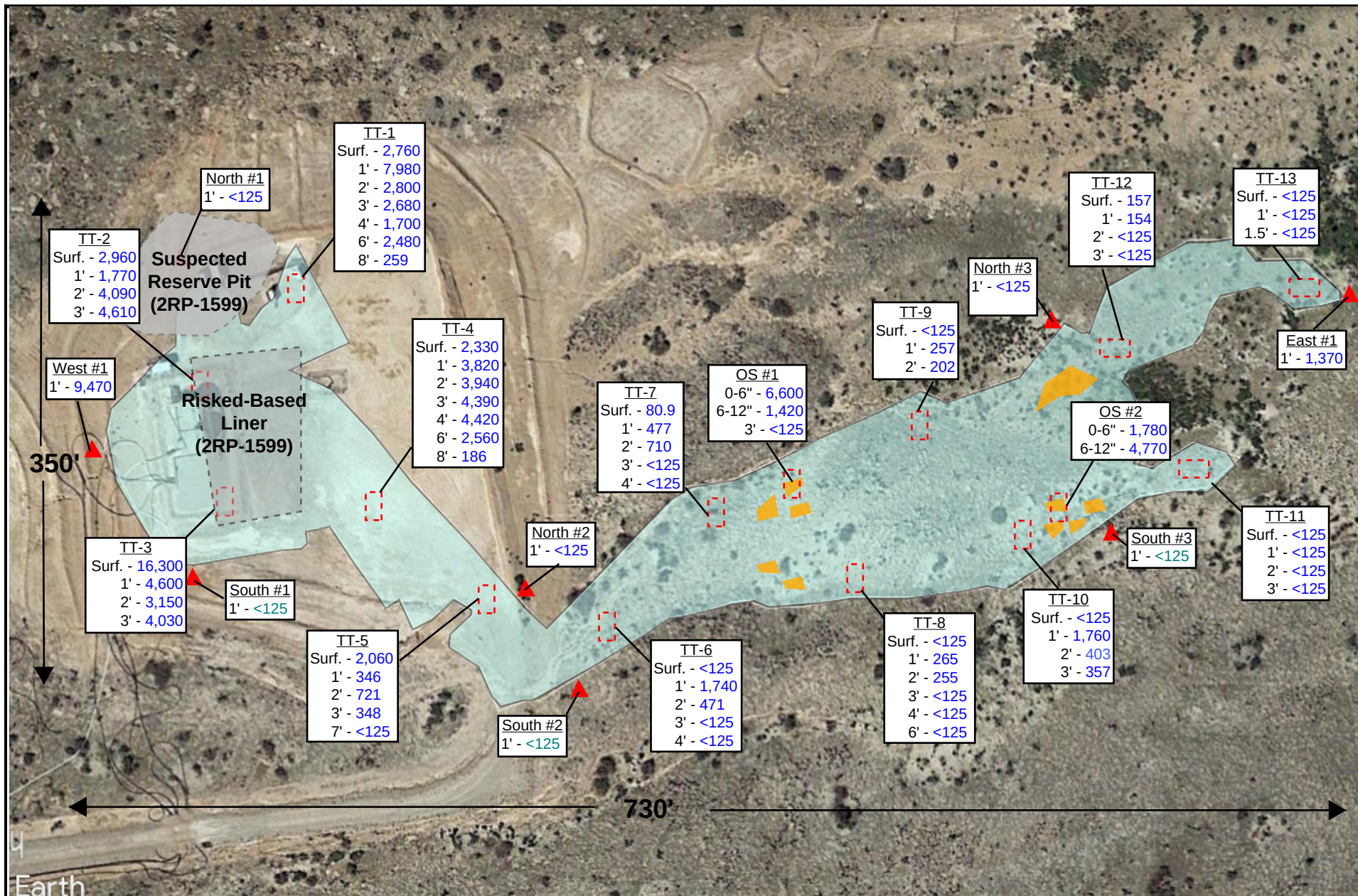
Lat. N 32.04148 Long. W104.22821

UL "J", Sec. 18, T26S, R27E TRC

Proj. No.: 286279



2057 Commerce Drive
 Midland, Texas 79703
 432.520.7720



LEGEND: Test Trench Horizontal Sample Location Affected Area		Hydrocarbon Stained Area Chloride Concentration Liner and/or Reserve Pit		Figure 2 Site & Sample Location Map COG Operating, LLC Owl 20504 JV-P #005 SWD Eddy County, NM	Scale 1" = ~90' Drafted By: JL Checked By: CS Draft: October 12, 2017 Lat. N 32.04148 Long. W104.22821 UL "J", Sec. 18, T26S, R27E TRC Proj. No.: 286279	 2057 Commerce Drive Midland, Texas 79703 432.520.7720
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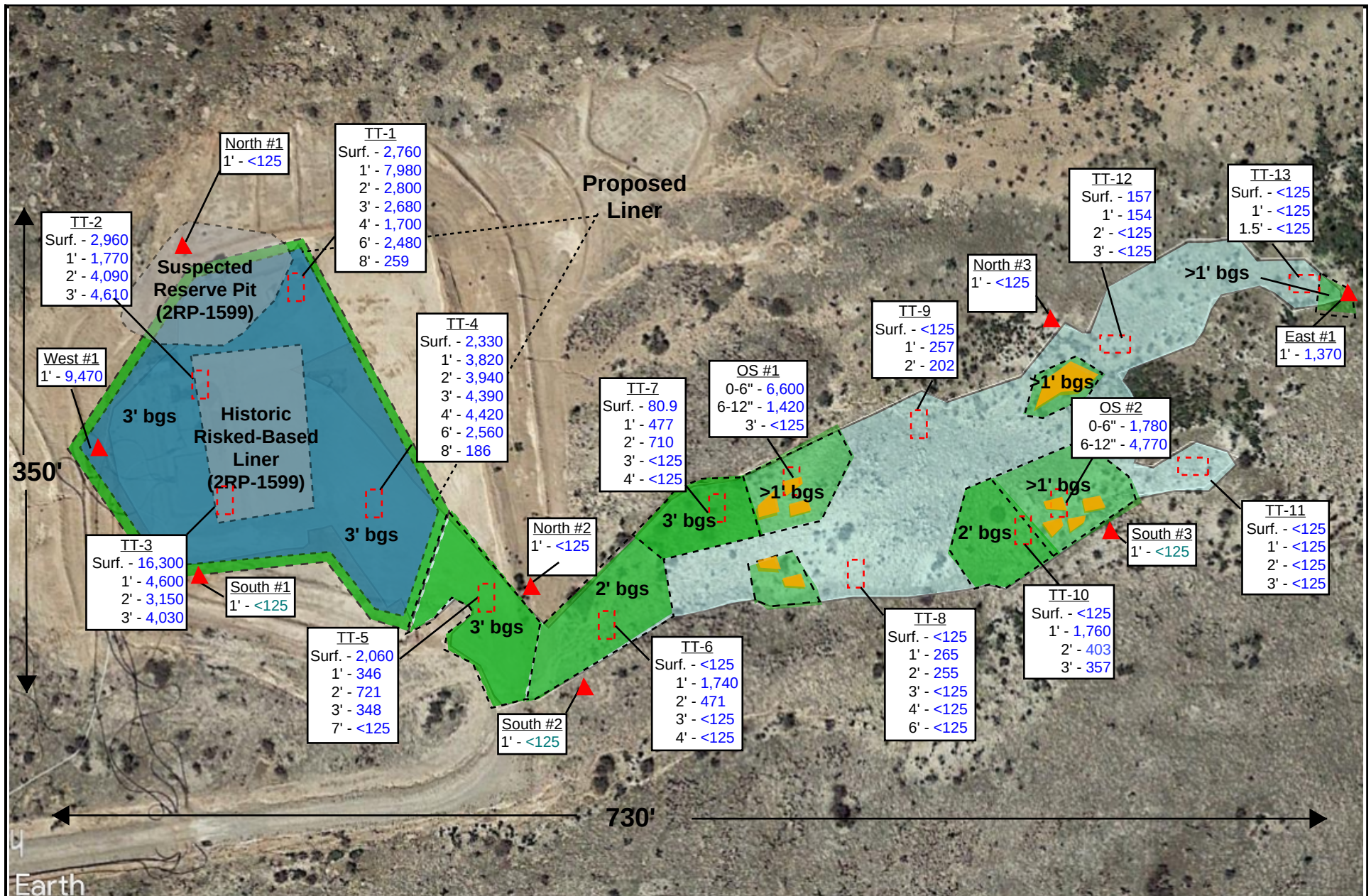


TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

COG OPERATING LLC
OWL 20504 JV-P #005 SWD
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	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
TT-1 @ Surface	10/03/17	In-Situ	<0.0183	<0.0183	<0.0183	<0.0183	<0.0183	<3.67	<25.0	<25.0	<25.0	2,760
TT-1 @ 1'	10/03/17	In-Situ	<0.0172	<0.0172	<0.0172	<0.0172	<0.0172	<3.43	<25.0	<25.0	<25.0	7,980
TT-1 @ 2'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	2,800
TT-1 @ 3'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	2,680
TT-1 @ 4'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	1,700
TT-1 @ 6'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	2,480
TT-1 @ 8'-G	10/03/17	In-Situ	<0.0195	<0.0195	<0.0195	<0.0195	<0.0195	<3.91	<25.0	<25.0	<25.0	259
TT-2 @ Surface	10/03/17	In-Situ	<0.0197	<0.0197	<0.0197	<0.0197	<0.0197	<3.94	293	67.9	361	2,960
TT-2 @ 1'	10/03/17	In-Situ	<0.0198	0.0436	<0.0198	<0.0198	0.0436	160	191	<25.0	351	1,770
TT-2 @ 2'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	4,090
TT-2 @ 3'	10/03/17	In-Situ	<0.0177	<0.0177	<0.0177	<0.0177	<0.0177	<3.55	<25.0	<25.0	<25.0	4,610
TT-3 @ Surface	10/03/17	In-Situ	<0.0197	0.0217	<0.0197	0.911	0.9327	111	5,600	1,050	6,650	16,300
TT-3 @ 1'	10/03/17	In-Situ	0.798	2.93	5.42	40.9	50.048	1,540	1,010	154	2,704	4,600
TT-3 @ 2'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	3,150
TT-3 @ 3'	10/03/17	In-Situ	<0.0193	<0.0193	<0.0193	0.155	0.155	9.40	<25.0	<25.0	9.40	4,030
TT-4 @ Surface	10/03/17	In-Situ	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	<3.87	243	48.5	291.5	2,330
TT-4 @ 1'	10/03/17	In-Situ	<0.0170	<0.0170	<0.0170	<0.017	<0.017	<3.40	<25.0	<25.0	<25.0	3,820
TT-4 @ 2'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	3,940
TT-4 @ 3'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	4,390
TT-4 @ 4'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	4,420
TT-4 @ 6'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	2,560
TT-4 @ 8'-G	10/03/17	In-Situ	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<4.00	<25.0	<25.0	<25.0	186
TT-5 @ Surface	10/03/17	In-Situ	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	<3.87	90.7	26.1	<25.0	2,060
TT-5 @ 1'	10/03/17	In-Situ	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	<3.87	<25.0	<25.0	<25.0	346
TT-5 @ 2'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	721
TT-5 @ 3'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	348
TT-5 @ 7'-G	10/03/17	In-Situ	<0.0186	<0.0186	<0.0186	<0.0186	<0.0186	<3.71	<25.0	<25.0	<25.0	<125
TT-6 @ Surface	10/03/17	In-Situ	<0.0187	<0.0187	<0.0187	<0.0187	<0.0187	<3.75	<25.0	<25.0	<25.0	<125
TT-6 @ 1'	10/03/17	In-Situ	<0.0198	<0.0198	<0.0198	<0.0198	<0.0198	<4.00	<25.0	<25.0	<25.0	1,740
TT-6 @ 2'	10/03/17	In-Situ	-	-	-	-	-	<4.00	<25.0	<25.0	<25.0	471
TT-6 @ 3'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	<125
TT-6 @ 4'-G	10/03/17	In-Situ	<0.0195	<0.0195	<0.0195	<0.0195	<0.0195	<3.89	<25.0	<25.0	<25.0	<125
TT-7 @ Surface	10/03/17	In-Situ	<0.0200	<0.0200	<0.0200	<0.02	<0.02	<3.85	<25.0	<25.0	<25.0	80.9
TT-7 @ 1'	10/03/17	In-Situ	<0.0176	<0.0176	<0.0176	<0.0176	<0.0176	<3.52	<25.0	<25.0	<25.0	477
TT-7 @ 2'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	710
TT-7 @ 3'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	<125
TT-7 @ 4'-G	10/03/17	In-Situ	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	<3.87	<25.0	<25.0	<25.0	<125
TT-8 @ Surface	10/03/17	In-Situ	<0.0198	<0.0198	<0.0198	<0.0198	<0.0198	<3.95	41.0	<25.0	41.0	<125
TT-8 @ 1'	10/03/17	In-Situ	<0.0194	<0.0194	<0.0194	<0.0194	<0.0194	<3.88	<25.0	<25.0	<25.0	265
TT-8 @ 2'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	255
TT-8 @ 3'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	<125
TT-8 @ 4'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	<125
TT-8 @ 6'-G	10/03/17	In-Situ	<0.0186	<0.0186	<0.0186	<0.0186	<0.0186	<3.71	<25.0	<25.0	<25.0	<125
TT-9 @ Surface	10/03/17	In-Situ	<0.0185	<0.0185	<0.0185	<0.0185	<0.0185	<3.70	<25.0	<25.0	<25.0	<125
TT-9 @ 1'	10/03/17	In-Situ	<0.0181	<0.0181	<0.0181	<0.0181	<0.0181	<3.62	<25.0	<25.0	<25.0	257
TT-9 @ 2'-G	10/03/17	In-Situ	<0.0192	<0.0192	<0.0192	<0.0192	<0.0192	<3.83	<25.0	<25.0	<25.0	202
TT-10 @ Surface	10/03/17	In-Situ	<0.0196	<0.0196	<0.0196	<0.0196	<0.0196	<3.91	<25.0	<25.0	<25.0	<125
TT-10 @ 1'	10/03/17	In-Situ	<0.0199	<0.0199	<0.0199	<0.0199	<0.0199	<3.98	<25.0	<25.0	<25.0	1,760
TT-10 @ 2'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	403
TT-10 @ 3'-G	10/03/17	In-Situ	<0.0185	<0.0185	<0.0185	<0.0185	<0.0185	<3.70	<25.0	<25.0	<25.0	375
TT-11 @ Surface	10/03/17	In-Situ	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<3.99	<25.0	<25.0	<25.0	<125
TT-11 @ 1'	10/03/17	In-Situ	<0.0190	<0.0190	<0.0190	<0.0190	<0.0190	<3.80	<25.0	<25.0	<25.0	<125
TT-11 @ 2'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	<125
TT-11 @ 3'-G	10/03/17	In-Situ	<0.0181	<0.0181	<0.0181	<0.0181	<0.0181	<3.63	<25.0	<25.0	<25.0	<125
TT-12 @ Surface	10/03/17	In-Situ	<0.0189	<0.0189	<0.0189	<0.0189	<0.0189	<3.77	<25.0	<25.0	<25.0	157
TT-12 @ 1'	10/03/17	In-Situ	<0.01915	<0.01915	<0.01915	<0.01915	<0.01915	<3.90	<25.0	<25.0	<25.0	154
TT-12 @ 2'	10/03/17	In-Situ	-	-	-	-	-	-	-	-	-	<125
TT-12 @ 3'-G	10/03/17	In-Situ	<0.0191	<0.0191	<0.0191	<0.0191	<0.0191	<3.82	<25.0	<25.0	<25.0	<125
TT-13 @ Surface	10/03/17	In-Situ	<0.0187	<0.0187	<0.0187	<0.0187	<0.0187	<3.73	<25.0	<25.0	<25.0	<125
TT-13 @ 1'	10/03/17	In-Situ	<0.0193	<0.0193	<0.0193	<0.0193	<0.0193	<3.87	<25.0	<25.0	<25.0	<125
TT-13 @ 1.5'-G	10/03/17	In-Situ	<0.0181	<0.0181	<0.0181	<0.0181	<0.0181	<3.62	<25.0	<25.0	<25.0	<125
North #1	10/03/17	In-Situ	<0.0192	<0.0192	<0.0192	<0.0192	<0.0192	<3.85	<25.0	<25.0	<25.0	<125
North #2	10/03/17	In-Situ	<0.0197	<0.0197	<0.0197	<0.0197	<0.0197	<3.94	<25.0	<25.0	<25.0	<125
North #3	10/03/17	In-Situ	<0.0199	<0.0199	<0.0199	<0.0199	<0.0199	<3.98	<25.0	<25.0	<25.0	<125
South #1	10/03/17	In-Situ	<0.0185	<0.0185	<0.0185	<0.0185	<0.0185	<3.70	<25.0	<25.0	<25.0	<125
South #2	10/03/17	In-Situ	<0.0196	<0.0196	<0.0196	<0.0196	<0.0196	<3.91	<25.0	<25.0	<25.0	<125
South #3	10/03/17	In-Situ	<0.0197	<0.0197	<0.0197	<0.0197	<0.0197	<3.94	<25.0	<25.0	<25.0	<125
East #1	10/03/17	In-Situ	<0.0197	<0.0197	<0.0197	<0.0197	<0.0197	<3.94	<25.0	<25.0	<25.0	1,370
West #1	10/03/17	In-Situ	<0.0189	<0.0189	<0.0189	<0.0189	<0.0189	<3.77	<25.0	<25.0	<25.0	9,470
OS #1 @ 0-6"	10/03/17	In-Situ	<0.0197	<0.0197	<0.0197	<0.0197	<0.0197	<3.94	23,000	5160	28,160	6,600
OS #1 @ 6-12"	10/03/17	In-Situ	<0.0175	<0.0175	<0.0175	<0.0175	<0.0175	<3.50	118	37.0	155.0	1,420
OS #1 @ 3'	10/03/17	In-Situ	<0.0197	<0.0197	<0.0197	<0.0197	<0.0197	<3.94	<25.0	<25.0	<25.0	<125
OS #2 @ 0-6"	10/03/17	In-Situ	<0.0195	<0.0195	<0.0195	<0.0195	<0.0195	<3.89	2,390	579	2,969	1,780
OS #2 @ 6-12"	10/03/17	In-Situ	<0.0199	<0.0199	<0.0199	<0.0199	<0.0199	<3.98	<25.0	<25.0	<25.0	4,770
NMOCD Recommended Remediation Action Level			10	-	-	-	50	-	-	-	1,000	600



Certificate of Analysis Summary 564855

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co, NM

Date Received in Lab: Thu Oct-05-17 05:01 pm

Report Date: 12-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	564855-001	564855-002	564855-003	564855-004	564855-005	564855-006
	<i>Field Id:</i>	TT-1 @ Surf.	TT-1 @ 1'	TT-1 @ 2'	TT-1 @ 3'	TT-1 @ 4'	TT-1 @ 6'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00				
	<i>Analyzed:</i>	Oct-08-17 21:09	Oct-08-17 23:51				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Benzene		<0.0183 0.0183	<0.0172 0.0172				
Toluene		<0.0183 0.0183	<0.0172 0.0172				
Ethylbenzene		<0.0183 0.0183	<0.0172 0.0172				
Xylenes, Total		<0.0183 0.0183	<0.0172 0.0172				
Total BTEX		<0.0183 0.0183	<0.0172 0.0172				
Chloride by EPA 300	<i>Extracted:</i>	Oct-11-17 09:30	Oct-11-17 09:30	Oct-11-17 09:30	Oct-11-17 09:30	Oct-11-17 09:30	Oct-11-17 09:30
	<i>Analyzed:</i>	Oct-11-17 18:51	Oct-11-17 19:16	Oct-11-17 19:41	Oct-11-17 20:18	Oct-11-17 20:43	Oct-11-17 21:08
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2760 D 1250	7980 D 2500	2800 D 1250	2680 D 1250	1700 125	2480 D 1250
DRO-ORO By SW8015B	<i>Extracted:</i>	Oct-06-17 14:15	Oct-06-17 14:15				
	<i>Analyzed:</i>	Oct-07-17 22:20	Oct-08-17 00:08				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0				
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0				
TPH GRO by EPA 8015 Mod.	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00				
	<i>Analyzed:</i>	Oct-08-17 21:09	Oct-08-17 23:51				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
TPH-GRO		<3.67 3.67	<3.43 3.43				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 564855

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co, NM

Date Received in Lab: Thu Oct-05-17 05:01 pm

Report Date: 12-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564855-007					
	Field Id:	TT-1 @ 8'-G					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Oct-03-17 00:00					
BTEX by EPA 8021B	Extracted:	Oct-06-17 14:00					
	Analyzed:	Oct-09-17 00:17					
	Units/RL:	mg/kg RL					
Benzene		<0.0195 0.0195					
Toluene		<0.0195 0.0195					
Ethylbenzene		<0.0195 0.0195					
Xylenes, Total		<0.0195 0.0195					
Total BTEX		<0.0195 0.0195					
Chloride by EPA 300	Extracted:	Oct-11-17 09:30					
	Analyzed:	Oct-11-17 21:32					
	Units/RL:	mg/kg RL					
Chloride		259 125					
DRO-ORO By SW8015B	Extracted:	Oct-06-17 14:15					
	Analyzed:	Oct-08-17 00:44					
	Units/RL:	mg/kg RL					
Diesel Range Organics (DRO)		<25.0 25.0					
Oil Range Hydrocarbons (ORO)		<25.0 25.0					
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-06-17 14:00					
	Analyzed:	Oct-09-17 00:17					
	Units/RL:	mg/kg RL					
TPH-GRO		<3.91 3.91					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564855

for

TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

12-OCT-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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



12-OCT-17

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

Reference: XENCO Report No(s): **564855**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564855. 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. 564855 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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Sample Cross Reference 564855

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-1 @ Surf.	S	10-03-17 00:00		564855-001
TT-1 @ 1'	S	10-03-17 00:00		564855-002
TT-1 @ 2'	S	10-03-17 00:00		564855-003
TT-1 @ 3'	S	10-03-17 00:00		564855-004
TT-1 @ 4'	S	10-03-17 00:00		564855-005
TT-1 @ 6'	S	10-03-17 00:00		564855-006
TT-1 @ 8'-G	S	10-03-17 00:00		564855-007



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:
Work Order Number(s): 564855

Report Date: 12-OCT-17
Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029875 BTEX by EPA 8021B

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

Batch: LBA-3029949 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564855-001 S, 564855-001 SD, 564855-001.

Batch: LBA-3030193 Chloride by EPA 300

Lab Sample ID 564855-007 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564855-001, -002, -003, -004, -005, -006, -007.

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



Certificate of Analytical Results 564855

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-1 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564855-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030193

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2760	1250	mg/kg	10.11.17 19.03	D	50

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.07.17 22.20	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.07.17 22.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	153	%	65-144	10.07.17 22.20	**
n-Triacontane	638-68-6	123	%	46-152	10.07.17 22.20	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0183	0.0183	mg/kg	10.08.17 21.09	U	1
Toluene	108-88-3	<0.0183	0.0183	mg/kg	10.08.17 21.09	U	1
Ethylbenzene	100-41-4	<0.0183	0.0183	mg/kg	10.08.17 21.09	U	1
Xylenes, Total	1330-20-7	<0.0183	0.0183	mg/kg	10.08.17 21.09	U	1
Total BTEX		<0.0183	0.0183	mg/kg	10.08.17 21.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	68-120	10.08.17 21.09	
a,a,a-Trifluorotoluene	98-08-8	108	%	71-121	10.08.17 21.09	



Certificate of Analytical Results 564855

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-1 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564855-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.67	3.67	mg/kg	10.08.17 21.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	76-123	10.08.17 21.09		
a,a,a-Trifluorotoluene	98-08-8	101	%	69-120	10.08.17 21.09		



Certificate of Analytical Results 564855

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-1 @ 1'**
Lab Sample Id: 564855-002

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.01

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030193

Prep Method: E300P

% Moisture:

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7980	2500	mg/kg	10.11.17 19.28	D	100

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029949

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 00.08	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 00.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	10.08.17 00.08	
n-Triacontane	638-68-6	97	%	46-152	10.08.17 00.08	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029875

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0172	0.0172	mg/kg	10.08.17 23.51	U	1
Toluene	108-88-3	<0.0172	0.0172	mg/kg	10.08.17 23.51	U	1
Ethylbenzene	100-41-4	<0.0172	0.0172	mg/kg	10.08.17 23.51	U	1
Xylenes, Total	1330-20-7	<0.0172	0.0172	mg/kg	10.08.17 23.51	U	1
Total BTEX		<0.0172	0.0172	mg/kg	10.08.17 23.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	10.08.17 23.51	
a,a,a-Trifluorotoluene	98-08-8	105	%	71-121	10.08.17 23.51	



Certificate of Analytical Results 564855

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-1 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564855-002

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.43	3.43	mg/kg	10.08.17 23.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	76-123	10.08.17 23.51		
a,a,a-Trifluorotoluene	98-08-8	99	%	69-120	10.08.17 23.51		



Certificate of Analytical Results 564855

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-1 @ 2'**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564855-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030193

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2800	1250	mg/kg	10.11.17 19.53	D	50



Certificate of Analytical Results 564855

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-1 @ 3'**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564855-004

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030193

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2680	1250	mg/kg	10.11.17 20.30	D	50



Certificate of Analytical Results 564855

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-1 @ 4'**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564855-005

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030193

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1700	125	mg/kg	10.11.17 20.43		5



Certificate of Analytical Results 564855

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-1 @ 6'**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564855-006

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030193

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2480	1250	mg/kg	10.11.17 21.20	D	50



Certificate of Analytical Results 564855

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-1 @ 8'-G**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564855-007

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030193

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	259	125	mg/kg	10.11.17 21.32		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 00.44	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 00.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	131	%	65-144	10.08.17 00.44	
n-Triacontane	638-68-6	110	%	46-152	10.08.17 00.44	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0195	0.0195	mg/kg	10.09.17 00.17	U	1
Toluene	108-88-3	<0.0195	0.0195	mg/kg	10.09.17 00.17	U	1
Ethylbenzene	100-41-4	<0.0195	0.0195	mg/kg	10.09.17 00.17	U	1
Xylenes, Total	1330-20-7	<0.0195	0.0195	mg/kg	10.09.17 00.17	U	1
Total BTEX		<0.0195	0.0195	mg/kg	10.09.17 00.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	68-120	10.09.17 00.17	
a,a,a-Trifluorotoluene	98-08-8	92	%	71-121	10.09.17 00.17	



Certificate of Analytical Results 564855

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-1 @ 8'-G**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564855-007

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.91	3.91	mg/kg	10.09.17 00.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	82	%	76-123	10.09.17 00.17		
a,a,a-Trifluorotoluene	98-08-8	89	%	69-120	10.09.17 00.17		

- 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

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(602) 437-0330	



QC Summary 564855

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030193

MB Sample Id: 7632480-1-BLK

Matrix: Solid

LCS Sample Id: 7632480-1-BKS

Prep Method: E300P

Date Prep: 10.11.17

LCSD Sample Id: 7632480-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	247	99	244	98	90-110	1	20	mg/kg	10.11.17 17:12	

Analytical Method: Chloride by EPA 300

Seq Number: 3030193

Parent Sample Id: 564843-005

Matrix: Soil

MS Sample Id: 564843-005 S

Prep Method: E300P

Date Prep: 10.11.17

MSD Sample Id: 564843-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	171	250	428	103	404	93	80-120	6	20	mg/kg	10.11.17 18:26	

Analytical Method: Chloride by EPA 300

Seq Number: 3030193

Parent Sample Id: 564855-007

Matrix: Soil

MS Sample Id: 564855-007 S

Prep Method: E300P

Date Prep: 10.11.17

MSD Sample Id: 564855-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.11.17 21:57	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

MB Sample Id: 7632252-1-BLK

Matrix: Solid

LCS Sample Id: 7632252-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632252-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	116	116	114	114	63-139	2	20	mg/kg	10.07.17 21:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	116		118		119		65-144	%	10.07.17 21:08
n-Triacontane	100		92		94		46-152	%	10.07.17 21:08

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	137	137	135	135	63-139	1	20	mg/kg	10.07.17 22:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	163	**	153	**	65-144	%	10.07.17 22:56
n-Triacontane	119		113		46-152	%	10.07.17 22:56

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

MB Sample Id: 7632206-1-BLK

Matrix: Solid

LCS Sample Id: 7632206-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632206-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.01	101	2.00	100	55-120	0	20	mg/kg	10.08.17 17:59	
Toluene	<0.0200	2.00	2.01	101	2.02	101	77-120	0	20	mg/kg	10.08.17 17:59	
Ethylbenzene	<0.0200	2.00	1.96	98	2.00	100	77-120	2	20	mg/kg	10.08.17 17:59	
Xylenes, Total	0	6	5.87	98	5.97	100	71-133	0	20	mg/kg	10.08.17 17:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		99		99		68-120	%	10.08.17 17:59
a,a,a-Trifluorotoluene	98		95		96		71-121	%	10.08.17 17:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0197	1.97	1.87	95	1.77	95	54-120	5	25	mg/kg	10.08.17 21:36	
Toluene	<0.0197	1.97	2.01	102	1.92	103	57-120	5	25	mg/kg	10.08.17 21:36	
Ethylbenzene	<0.0197	1.97	2.08	106	1.99	107	58-131	4	25	mg/kg	10.08.17 21:36	
Xylenes, Total	0	5.91	6.23	105	5.98	107	71-133	0	20	mg/kg	10.08.17 21:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
o-Xylene	104				62-124	%	10.08.17 21:36
4-Bromofluorobenzene	104		102		68-120	%	10.08.17 21:36
a,a,a-Trifluorotoluene	105		104		71-121	%	10.08.17 21:36

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

MB Sample Id: 7632209-1-BLK

Matrix: Solid

LCS Sample Id: 7632209-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632209-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	15.4	77	16.5	83	35-129	7	20	mg/kg	10.08.17 18:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	94		82		83		76-123	%	10.08.17 18:53
a,a,a-Trifluorotoluene	104		88		89		69-120	%	10.08.17 18:53



QC Summary 564855

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.45	17.2	13.5	78	15.5	80	35-129	14	20	mg/kg	10.08.17 22:29	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	89		99		76-123	%	10.08.17 22:29
a,a,a-Trifluorotoluene	83		95		69-120	%	10.08.17 22:29



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564855

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Form containing sections: Client / Reporting Information, Project Information, Collection, Data Deliverable Information, Turnaround Time, Relinquished by, and Matrix Codes. Includes handwritten sample IDs, dates, and signatures.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2017 05:01:00 PM

Work Order #: 564855

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564857

TRC Solutions, Inc, Midland, TX

Project Name: OWL 20504 JV- #005-SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co, NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 13-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564857-001	564857-002	564857-003	564857-004		
	Field Id:	TT-2 @ Surf.	TT-2 @ 1'	TT-2 @ 2'	TT-2 @ 3'		
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00		
BTEX by EPA 8021B	Extracted:	Oct-10-17 14:30	Oct-10-17 14:30		Oct-06-17 14:00		
	Analyzed:	Oct-11-17 05:34	Oct-11-17 08:50		Oct-09-17 00:44		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
Benzene		<0.0197 0.0197	<0.0198 0.0198		<0.0177 0.0177		
Toluene		<0.0197 0.0197	0.0436 0.0198		<0.0177 0.0177		
Ethylbenzene		<0.0197 0.0197	<0.0198 0.0198		<0.0177 0.0177		
Xylenes, Total		<0.0197 0.0197	<0.0198 0.0198		<0.0177 0.0177		
Total BTEX		<0.0197 0.0197	0.0436 0.0198		<0.0177 0.0177		
Chloride by EPA 300	Extracted:	Oct-11-17 09:30	Oct-11-17 09:30	Oct-11-17 09:30	Oct-11-17 09:30		
	Analyzed:	Oct-12-17 10:40	Oct-12-17 11:05	Oct-12-17 11:30	Oct-12-17 12:20		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		2960 D 1250	1770 125	4090 250	4610 250		
DRO-ORO By SW8015B	Extracted:	Oct-06-17 14:15	Oct-06-17 14:15		Oct-06-17 14:15		
	Analyzed:	Oct-08-17 01:19	Oct-08-17 01:55		Oct-08-17 02:30		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
Diesel Range Organics (DRO)		293 25.0	191 25.0		<25.0 25.0		
Oil Range Hydrocarbons (ORO)		67.9 25.0	<25.0 25.0		<25.0 25.0		
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-10-17 14:30	Oct-10-17 14:30		Oct-06-17 14:00		
	Analyzed:	Oct-11-17 05:34	Oct-11-17 09:44		Oct-09-17 00:44		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
TPH-GRO		<3.94 3.94	160 19.8		<3.55 3.55		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564857

**for
TRC Solutions, Inc**

Project Manager: Joel Lowry

OWL 20504 JV- #005-SWD

13-OCT-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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



13-OCT-17

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

Reference: XENCO Report No(s): **564857**
OWL 20504 JV- #005-SWD
Project Address: Eddy 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) 564857. 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. 564857 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564857

TRC Solutions, Inc, Midland, TX

OWL 20504 JV- #005-SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-2 @ Surf.	S	10-03-17 00:00		564857-001
TT-2 @ 1'	S	10-03-17 00:00		564857-002
TT-2 @ 2'	S	10-03-17 00:00		564857-003
TT-2 @ 3'	S	10-03-17 00:00		564857-004



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: OWL 20504 JV- #005-SWD

Project ID:

Work Order Number(s): 564857

Report Date: 13-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029875 BTEX by EPA 8021B

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

Batch: LBA-3029949 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564855-001 S, 564855-001 SD, 564857-001, 564857-002.

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

Samples affected are: 564857-001.

Batch: LBA-3030116 BTEX by EPA 8021B

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

Batch: LBA-3030297 Chloride by EPA 300

Lab Sample ID 564862-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).

Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564857-001, -002, -003, -004.

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



Certificate of Analytical Results 564857

TRC Solutions, Inc, Midland, TX

OWL 20504 JV- #005-SWD

Sample Id: **TT-2 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564857-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2960	1250	mg/kg	10.12.17 10.53	D	50

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	293	25.0	mg/kg	10.08.17 01.19		1
Oil Range Hydrocarbons (ORO)	PHCG2835	67.9	25.0	mg/kg	10.08.17 01.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	285	%	65-144	10.08.17 01.19	**
n-Triacontane	638-68-6	167	%	46-152	10.08.17 01.19	**

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.10.17 14.30

Basis: Wet Weight

Seq Number: 3030116

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.11.17 05.34	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	10.11.17 05.34	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.11.17 05.34	U	1
Xylenes, Total	1330-20-7	<0.0197	0.0197	mg/kg	10.11.17 05.34	U	1
Total BTEX		<0.0197	0.0197	mg/kg	10.11.17 05.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.11.17 05.34	
a,a,a-Trifluorotoluene	98-08-8	114	%	71-121	10.11.17 05.34	



Certificate of Analytical Results 564857

TRC Solutions, Inc, Midland, TX

OWL 20504 JV- #005-SWD

Sample Id: **TT-2 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564857-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.10.17 14.30

Basis: Wet Weight

Seq Number: 3030118

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.94	3.94	mg/kg	10.11.17 05.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	76-123	10.11.17 05.34		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.11.17 05.34		



Certificate of Analytical Results 564857

TRC Solutions, Inc, Midland, TX

OWL 20504 JV- #005-SWD

Sample Id: TT-2 @ 1'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564857-002

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1770	125	mg/kg	10.12.17 11.05		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	191	25.0	mg/kg	10.08.17 01.55		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 01.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	199	%	65-144	10.08.17 01.55	**
n-Triacontane	638-68-6	122	%	46-152	10.08.17 01.55	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.10.17 14.30

Basis: Wet Weight

Seq Number: 3030116

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0198	0.0198	mg/kg	10.11.17 08.50	U	1
Toluene	108-88-3	0.0436	0.0198	mg/kg	10.11.17 08.50		1
Ethylbenzene	100-41-4	<0.0198	0.0198	mg/kg	10.11.17 08.50	U	1
Xylenes, Total	1330-20-7	<0.0198	0.0198	mg/kg	10.11.17 08.50	U	1
Total BTEX		0.0436	0.0198	mg/kg	10.11.17 08.50		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	68-120	10.11.17 08.50	
a,a,a-Trifluorotoluene	98-08-8	107	%	71-121	10.11.17 08.50	



Certificate of Analytical Results 564857

TRC Solutions, Inc, Midland, TX

OWL 20504 JV- #005-SWD

Sample Id: TT-2 @ 1'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564857-002

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.10.17 14.30

Basis: Wet Weight

Seq Number: 3030118

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	160	19.8	mg/kg	10.11.17 09.44		5
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	76-123	10.11.17 09.44		
a,a,a-Trifluorotoluene	98-08-8	91	%	69-120	10.11.17 09.44		



Certificate of Analytical Results 564857

TRC Solutions, Inc, Midland, TX

OWL 20504 JV- #005-SWD

Sample Id: **TT-2 @ 2'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564857-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4090	250	mg/kg	10.12.17 11.30		10



Certificate of Analytical Results 564857

TRC Solutions, Inc, Midland, TX

OWL 20504 JV- #005-SWD

Sample Id: TT-2 @ 3'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564857-004

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4610	250	mg/kg	10.12.17 12.20		10

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 02.30	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 02.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	117	%	65-144	10.08.17 02.30	
n-Triacontane	638-68-6	101	%	46-152	10.08.17 02.30	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0177	0.0177	mg/kg	10.09.17 00.44	U	1
Toluene	108-88-3	<0.0177	0.0177	mg/kg	10.09.17 00.44	U	1
Ethylbenzene	100-41-4	<0.0177	0.0177	mg/kg	10.09.17 00.44	U	1
Xylenes, Total	1330-20-7	<0.0177	0.0177	mg/kg	10.09.17 00.44	U	1
Total BTEX		<0.0177	0.0177	mg/kg	10.09.17 00.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	10.09.17 00.44	
a,a,a-Trifluorotoluene	98-08-8	106	%	71-121	10.09.17 00.44	



Certificate of Analytical Results 564857

TRC Solutions, Inc, Midland, TX

OWL 20504 JV- #005-SWD

Sample Id: TT-2 @ 3'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564857-004

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.55	3.55	mg/kg	10.09.17 00.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	76-123	10.09.17 00.44		
a,a,a-Trifluorotoluene	98-08-8	101	%	69-120	10.09.17 00.44		

- 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.

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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



QC Summary 564857

TRC Solutions, Inc
OWL 20504 JV- #005-SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030297

MB Sample Id: 7632534-1-BLK

Matrix: Solid

LCS Sample Id: 7632534-1-BKS

Prep Method: E300P

Date Prep: 10.11.17

LCSD Sample Id: 7632534-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	247	99	240	96	90-110	3	20	mg/kg	10.12.17 10:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3030297

Parent Sample Id: 564857-003

Matrix: Soil

MS Sample Id: 564857-003 S

Prep Method: E300P

Date Prep: 10.11.17

MSD Sample Id: 564857-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4090	250	3590	0	3660	0	80-120	2	20	mg/kg	10.12.17 11:55	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030297

Parent Sample Id: 564862-002

Matrix: Soil

MS Sample Id: 564862-002 S

Prep Method: E300P

Date Prep: 10.11.17

MSD Sample Id: 564862-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5100	250	4850	0	4770	0	80-120	2	20	mg/kg	10.12.17 13:46	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

MB Sample Id: 7632252-1-BLK

Matrix: Solid

LCS Sample Id: 7632252-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632252-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	116	116	114	114	63-139	2	20	mg/kg	10.07.17 21:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	116		118		119		65-144	%	10.07.17 21:08
n-Triacontane	100		92		94		46-152	%	10.07.17 21:08

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	137	137	135	135	63-139	1	20	mg/kg	10.07.17 22:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	163	**	153	**	65-144	%	10.07.17 22:56
n-Triacontane	119		113		46-152	%	10.07.17 22:56

TRC Solutions, Inc
OWL 20504 JV- #005-SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

MB Sample Id: 7632206-1-BLK

Matrix: Solid

LCS Sample Id: 7632206-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632206-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.01	101	2.00	100	55-120	0	20	mg/kg	10.08.17 17:59	
Toluene	<0.0200	2.00	2.01	101	2.02	101	77-120	0	20	mg/kg	10.08.17 17:59	
Ethylbenzene	<0.0200	2.00	1.96	98	2.00	100	77-120	2	20	mg/kg	10.08.17 17:59	
Xylenes, Total	0	6	5.87	98	5.97	100	71-133	2	20	mg/kg	10.08.17 17:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		99		99		68-120	%	10.08.17 17:59
a,a,a-Trifluorotoluene	98		95		96		71-121	%	10.08.17 17:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030116

MB Sample Id: 7632395-1-BLK

Matrix: Solid

LCS Sample Id: 7632395-1-BKS

Prep Method: SW5030B

Date Prep: 10.10.17

LCSD Sample Id: 7632395-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.12	106	1.80	90	55-120	16	20	mg/kg	10.11.17 02:24	
Toluene	<0.0200	2.00	2.12	106	1.82	91	77-120	15	20	mg/kg	10.11.17 02:24	
Ethylbenzene	<0.0200	2.00	2.07	104	1.79	90	77-120	15	20	mg/kg	10.11.17 02:24	
Xylenes, Total	0	6	6.22	104	5.36	89	71-133	0	20	mg/kg	10.11.17 02:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	103		101		86		68-120	%	10.11.17 02:24
a,a,a-Trifluorotoluene	104		95		83		71-121	%	10.11.17 02:24

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0197	1.97	1.87	95	1.77	95	54-120	5	25	mg/kg	10.08.17 21:36	
Toluene	<0.0197	1.97	2.01	102	1.92	103	57-120	5	25	mg/kg	10.08.17 21:36	
Ethylbenzene	<0.0197	1.97	2.08	106	1.99	107	58-131	4	25	mg/kg	10.08.17 21:36	
Xylenes, Total	0	5.91	6.23	105	5.98	107	71-133	4	20	mg/kg	10.08.17 21:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		102		68-120	%	10.08.17 21:36
a,a,a-Trifluorotoluene	105		104		71-121	%	10.08.17 21:36

TRC Solutions, Inc
OWL 20504 JV- #005-SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030116

Parent Sample Id: 564857-001

Matrix: Soil

MS Sample Id: 564857-001 S

Prep Method: SW5030B

Date Prep: 10.10.17

MSD Sample Id: 564857-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0189	1.89	1.82	96	1.91	99	54-120	5	25	mg/kg	10.11.17 06:01	
Toluene	<0.0189	1.89	1.95	103	2.03	105	57-120	4	25	mg/kg	10.11.17 06:01	
Ethylbenzene	<0.0189	1.89	2.01	106	2.09	108	58-131	4	25	mg/kg	10.11.17 06:01	
Xylenes, Total	0	5.67	5.94	105	6.2	107	71-133	0	20	mg/kg	10.11.17 06:01	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		102		68-120	%	10.11.17 06:01
a,a,a-Trifluorotoluene	108		108		71-121	%	10.11.17 06:01

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

MB Sample Id: 7632209-1-BLK

Matrix: Solid

LCS Sample Id: 7632209-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632209-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	15.4	77	16.5	83	35-129	7	20	mg/kg	10.08.17 18:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	94		82		83		76-123	%	10.08.17 18:53
a,a,a-Trifluorotoluene	104		88		89		69-120	%	10.08.17 18:53

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030118

MB Sample Id: 7632396-1-BLK

Matrix: Solid

LCS Sample Id: 7632396-1-BKS

Prep Method: SW5030B

Date Prep: 10.10.17

LCSD Sample Id: 7632396-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	22.8	114	25.3	127	35-129	10	20	mg/kg	10.11.17 03:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		109		112		76-123	%	10.11.17 03:19
a,a,a-Trifluorotoluene	111		103		105		69-120	%	10.11.17 03:19

TRC Solutions, Inc
OWL 20504 JV- #005-SWD**Analytical Method: TPH GRO by EPA 8015 Mod.**

Seq Number: 3029916

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.45	17.2	13.5	78	15.5	80	35-129	14	20	mg/kg	10.08.17 22:29	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	89		99		76-123	%	10.08.17 22:29
a,a,a-Trifluorotoluene	83		95		69-120	%	10.08.17 22:29

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030118

Parent Sample Id: 564857-001

Matrix: Soil

MS Sample Id: 564857-001 S

Prep Method: SW5030B

Date Prep: 10.10.17

MSD Sample Id: 564857-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.98	19.9	24.4	123	24.5	124	35-129	0	20	mg/kg	10.11.17 06:55	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	118		114		76-123	%	10.11.17 06:55
a,a,a-Trifluorotoluene	103		101		69-120	%	10.11.17 06:55



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2017 05:00:00 PM

Work Order #: 564857

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564862

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co, NM

Date Received in Lab: Thu Oct-05-17 05:01 pm

Report Date: 16-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564862-001	564862-002	564862-003	564862-004		
	Field Id:	TT-3 @ Surf.	TT-3 @ 1'	TT-3 @ 2'	TT-3 @ 3'		
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00		
BTEX by EPA 8021B	Extracted:	Oct-10-17 14:30	Oct-06-17 14:00		Oct-06-17 14:00		
	Analyzed:	Oct-11-17 10:11	Oct-10-17 05:13		Oct-09-17 01:11		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
Benzene		<0.0197 0.0197	0.798 0.0962		<0.0193 0.0193		
Toluene		0.0217 0.0197	2.93 0.0962		<0.0193 0.0193		
Ethylbenzene		<0.0197 0.0197	5.42 0.0962		<0.0193 0.0193		
Xylenes, Total		0.911 0.0197	40.9 0.0962		0.155 0.0193		
Total BTEX		0.9327 0.0197	50.048 0.0962		0.155 0.0193		
Chloride by EPA 300	Extracted:	Oct-11-17 09:30	Oct-11-17 09:30	Oct-11-17 09:30	Oct-13-17 08:00		
	Analyzed:	Oct-12-17 12:44	Oct-12-17 13:22	Oct-12-17 14:11	Oct-13-17 10:58		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		16300 D 2500	4600 D 2500	3150 250	4030 250		
DRO-ORO By SW8015B	Extracted:	Oct-06-17 14:15	Oct-06-17 14:15		Oct-06-17 14:15		
	Analyzed:	Oct-09-17 13:47	Oct-08-17 03:40		Oct-09-17 16:15		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
Diesel Range Organics (DRO)		5600 125	1010 25.0		<25.0 25.0		
Oil Range Hydrocarbons (ORO)		1050 125	154 25.0		<25.0 25.0		
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-06-17 14:00	Oct-11-17 10:30		Oct-06-17 14:00		
	Analyzed:	Oct-10-17 04:47	Oct-11-17 23:36		Oct-09-17 01:11		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
TPH-GRO		111 19.3	1540 362		9.40 3.87		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564862

**for
TRC Solutions, Inc**

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

16-OCT-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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



16-OCT-17

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

Reference: XENCO Report No(s): **564862**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564862. 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. 564862 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564862

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-3 @ Surf.	S	10-03-17 00:00		564862-001
TT-3 @ 1'	S	10-03-17 00:00		564862-002
TT-3 @ 2'	S	10-03-17 00:00		564862-003
TT-3 @ 3'	S	10-03-17 00:00		564862-004



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 564862

Report Date: 16-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029875 BTEX by EPA 8021B

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

Batch: LBA-3029949 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564855-001 S, 564855-001 SD, 564862-001, 564862-002.

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

Samples affected are: 564862-001, 564862-002.

Batch: LBA-3029991 BTEX by EPA 8021B

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

Batch: LBA-3030116 BTEX by EPA 8021B

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

Batch: LBA-3030297 Chloride by EPA 300

Lab Sample ID 564862-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564862-001, -002, -003.

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



Certificate of Analytical Results 564862

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-3 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564862-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16300	2500	mg/kg	10.12.17 12.57	D	100

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	5600	125	mg/kg	10.09.17 13.47		5
Oil Range Hydrocarbons (ORO)	PHCG2835	1050	125	mg/kg	10.09.17 13.47		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	3940	%	65-144	10.09.17 13.47	**
n-Triacontane	638-68-6	1310	%	46-152	10.09.17 13.47	**

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.10.17 14.30

Basis: Wet Weight

Seq Number: 3030116

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.11.17 10.11	U	1
Toluene	108-88-3	0.0217	0.0197	mg/kg	10.11.17 10.11		1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.11.17 10.11	U	1
Xylenes, Total	1330-20-7	0.911	0.0197	mg/kg	10.11.17 10.11		1
Total BTEX		0.9327	0.0197	mg/kg	10.11.17 10.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.11.17 10.11	
a,a,a-Trifluorotoluene	98-08-8	114	%	71-121	10.11.17 10.11	



Certificate of Analytical Results 564862

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-3 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564862-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	111	19.3	mg/kg	10.10.17 04.47		5
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	76-123	10.10.17 04.47		
a,a,a-Trifluorotoluene	98-08-8	105	%	69-120	10.10.17 04.47		



Certificate of Analytical Results 564862

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-3 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564862-002

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4600	2500	mg/kg	10.12.17 13.34	D	100

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	1010	25.0	mg/kg	10.08.17 03.40		1
Oil Range Hydrocarbons (ORO)	PHCG2835	154	25.0	mg/kg	10.08.17 03.40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	631	%	65-144	10.08.17 03.40	**
n-Triacontane	638-68-6	233	%	46-152	10.08.17 03.40	**

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.798	0.0962	mg/kg	10.10.17 05.13		5
Toluene	108-88-3	2.93	0.0962	mg/kg	10.10.17 05.13		5
Ethylbenzene	100-41-4	5.42	0.0962	mg/kg	10.10.17 05.13		5
Xylenes, Total	1330-20-7	40.9	0.0962	mg/kg	10.10.17 05.13		5
Total BTEX		50.048	0.0962	mg/kg	10.10.17 05.13		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	68-120	10.10.17 05.13	
a,a,a-Trifluorotoluene	98-08-8	103	%	71-121	10.10.17 05.13	



Certificate of Analytical Results 564862

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-3 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564862-002

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.11.17 10.30

Basis: Wet Weight

Seq Number: 3030204

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	1540	362	mg/kg	10.11.17 23.36		100
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	76-123	10.11.17 23.36		
a,a,a-Trifluorotoluene	98-08-8	92	%	69-120	10.11.17 23.36		



Certificate of Analytical Results 564862

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-3 @ 2'**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564862-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.11.17 09.30

Basis: Wet Weight

Seq Number: 3030297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3150	250	mg/kg	10.12.17 14.11		10



Certificate of Analytical Results 564862

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: TT-3 @ 3'

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564862-004

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.13.17 08.00

Basis: Wet Weight

Seq Number: 3030364

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4030	250	mg/kg	10.13.17 10.58		10

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 16.15	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 16.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	121	%	65-144	10.09.17 16.15	
n-Triacontane	638-68-6	106	%	46-152	10.09.17 16.15	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0193	0.0193	mg/kg	10.09.17 01.11	U	1
Toluene	108-88-3	<0.0193	0.0193	mg/kg	10.09.17 01.11	U	1
Ethylbenzene	100-41-4	<0.0193	0.0193	mg/kg	10.09.17 01.11	U	1
Xylenes, Total	1330-20-7	0.155	0.0193	mg/kg	10.09.17 01.11		1
Total BTEX		0.155	0.0193	mg/kg	10.09.17 01.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.09.17 01.11	
a,a,a-Trifluorotoluene	98-08-8	109	%	71-121	10.09.17 01.11	



Certificate of Analytical Results 564862

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-3 @ 3'**

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564862-004

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	9.40	3.87	mg/kg	10.09.17 01.11		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	76-123	10.09.17 01.11		
a,a,a-Trifluorotoluene	98-08-8	98	%	69-120	10.09.17 01.11		

- 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

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(602) 437-0330	

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD**Analytical Method: Chloride by EPA 300**

Seq Number: 3030297

MB Sample Id: 7632534-1-BLK

Matrix: Solid

LCS Sample Id: 7632534-1-BKS

Prep Method: E300P

Date Prep: 10.11.17

LCSD Sample Id: 7632534-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	247	99	240	96	90-110	3	20	mg/kg	10.12.17 10:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3030364

MB Sample Id: 7632571-1-BLK

Matrix: Solid

LCS Sample Id: 7632571-1-BKS

Prep Method: E300P

Date Prep: 10.13.17

LCSD Sample Id: 7632571-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	244	98	237	95	90-110	3	20	mg/kg	10.13.17 09:31	

Analytical Method: Chloride by EPA 300

Seq Number: 3030297

Parent Sample Id: 564857-003

Matrix: Soil

MS Sample Id: 564857-003 S

Prep Method: E300P

Date Prep: 10.11.17

MSD Sample Id: 564857-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4090	250	3590	0	3660	0	80-120	2	20	mg/kg	10.12.17 11:55	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030297

Parent Sample Id: 564862-002

Matrix: Soil

MS Sample Id: 564862-002 S

Prep Method: E300P

Date Prep: 10.11.17

MSD Sample Id: 564862-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5100	250	4850	0	4770	0	80-120	2	20	mg/kg	10.12.17 13:46	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030364

Parent Sample Id: 565228-001

Matrix: Soil

MS Sample Id: 565228-001 S

Prep Method: E300P

Date Prep: 10.13.17

MSD Sample Id: 565228-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	254	102	247	99	80-120	3	20	mg/kg	10.13.17 10:21	

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

MB Sample Id: 7632252-1-BLK

Matrix: Solid

LCS Sample Id: 7632252-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632252-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	116	116	114	114	63-139	2	20	mg/kg	10.07.17 21:08	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
Tricosane	116		118		119		65-144	%	10.07.17 21:08			
n-Triacontane	100		92		94		46-152	%	10.07.17 21:08			

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	137	137	135	135	63-139	1	20	mg/kg	10.07.17 22:56	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
Tricosane			163	**	153	**	65-144	%	10.07.17 22:56			
n-Triacontane			119		113		46-152	%	10.07.17 22:56			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

MB Sample Id: 7632206-1-BLK

Matrix: Solid

LCS Sample Id: 7632206-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632206-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.01	101	2.00	100	55-120	0	20	mg/kg	10.08.17 17:59	
Toluene	<0.0200	2.00	2.01	101	2.02	101	77-120	0	20	mg/kg	10.08.17 17:59	
Ethylbenzene	<0.0200	2.00	1.96	98	2.00	100	77-120	2	20	mg/kg	10.08.17 17:59	
Xylenes, Total	0	6	5.87	98	5.97	100	71-133	2	20	mg/kg	10.08.17 17:59	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	100		99		99		68-120	%	10.08.17 17:59			
a,a,a-Trifluorotoluene	98		95		96		71-121	%	10.08.17 17:59			

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

MB Sample Id: 7632293-1-BLK

Matrix: Solid

LCS Sample Id: 7632293-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632293-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.09	105	2.13	107	55-120	2	20	mg/kg	10.09.17 14:23	
Toluene	<0.0200	2.00	2.11	106	2.15	108	77-120	2	20	mg/kg	10.09.17 14:23	
Ethylbenzene	<0.0200	2.00	2.07	104	2.15	108	77-120	4	20	mg/kg	10.09.17 14:23	
Xylenes, Total	0	6	6.21	104	6.44	107	71-133	4	20	mg/kg	10.09.17 14:23	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	107		102		103		68-120	%	10.09.17 14:23			
a,a,a-Trifluorotoluene	104		96		100		71-121	%	10.09.17 14:23			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030116

MB Sample Id: 7632395-1-BLK

Matrix: Solid

LCS Sample Id: 7632395-1-BKS

Prep Method: SW5030B

Date Prep: 10.10.17

LCSD Sample Id: 7632395-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.12	106	1.80	90	55-120	16	20	mg/kg	10.11.17 02:24	
Toluene	<0.0200	2.00	2.12	106	1.82	91	77-120	15	20	mg/kg	10.11.17 02:24	
Ethylbenzene	<0.0200	2.00	2.07	104	1.79	90	77-120	15	20	mg/kg	10.11.17 02:24	
Xylenes, Total	0	6	6.22	104	5.36	89	71-133	0	20	mg/kg	10.11.17 02:24	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	103		101		86		68-120	%	10.11.17 02:24			
a,a,a-Trifluorotoluene	104		95		83		71-121	%	10.11.17 02:24			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0197	1.97	1.87	95	1.77	95	54-120	5	25	mg/kg	10.08.17 21:36	
Toluene	<0.0197	1.97	2.01	102	1.92	103	57-120	5	25	mg/kg	10.08.17 21:36	
Ethylbenzene	<0.0197	1.97	2.08	106	1.99	107	58-131	4	25	mg/kg	10.08.17 21:36	
Xylenes, Total	0	5.91	6.23	105	5.98	107	71-133	4	20	mg/kg	10.08.17 21:36	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene			104		102		68-120	%	10.08.17 21:36			
a,a,a-Trifluorotoluene			105		104		71-121	%	10.08.17 21:36			



QC Summary 564862

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0195	1.95	2.08	107	2.07	107	54-120	0	25	mg/kg	10.09.17 18:00	
Toluene	<0.0195	1.95	2.25	115	2.26	117	57-120	0	25	mg/kg	10.09.17 18:00	
Ethylbenzene	<0.0195	1.95	2.32	119	2.01	104	58-131	14	25	mg/kg	10.09.17 18:00	
Xylenes, Total	0	5.85	6.94	119	6.66	115	71-133	4	20	mg/kg	10.09.17 18:00	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		110		68-120	%	10.09.17 18:00
a,a,a-Trifluorotoluene	109		111		71-121	%	10.09.17 18:00

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030116

Parent Sample Id: 564857-001

Matrix: Soil

MS Sample Id: 564857-001 S

Prep Method: SW5030B

Date Prep: 10.10.17

MSD Sample Id: 564857-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0189	1.89	1.82	96	1.91	99	54-120	5	25	mg/kg	10.11.17 06:01	
Toluene	<0.0189	1.89	1.95	103	2.03	105	57-120	4	25	mg/kg	10.11.17 06:01	
Ethylbenzene	<0.0189	1.89	2.01	106	2.09	108	58-131	4	25	mg/kg	10.11.17 06:01	
Xylenes, Total	0	5.67	5.94	105	6.2	107	71-133	0	20	mg/kg	10.11.17 06:01	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		102		68-120	%	10.11.17 06:01
a,a,a-Trifluorotoluene	108		108		71-121	%	10.11.17 06:01

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

MB Sample Id: 7632209-1-BLK

Matrix: Solid

LCS Sample Id: 7632209-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632209-1-BSO

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	15.4	77	16.5	83	35-129	7	20	mg/kg	10.08.17 18:53	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	94		82		83		76-123	%	10.08.17 18:53
a,a,a-Trifluorotoluene	104		88		89		69-120	%	10.08.17 18:53

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

MB Sample Id: 7632294-1-BLK

Matrix: Solid

LCS Sample Id: 7632294-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632294-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	20.7	104	20.1	101	35-129	3	20	mg/kg	10.09.17 15:17	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	110		114		97		76-123	%	10.09.17 15:17			
a,a,a-Trifluorotoluene	116		108		96		69-120	%	10.09.17 15:17			

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030204

MB Sample Id: 7632484-1-BLK

Matrix: Solid

LCS Sample Id: 7632484-1-BKS

Prep Method: SW5030B

Date Prep: 10.11.17

LCSD Sample Id: 7632484-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	23.0	115	24.0	120	35-129	4	20	mg/kg	10.11.17 18:12	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	103		108		110		76-123	%	10.11.17 18:12			
a,a,a-Trifluorotoluene	106		101		102		69-120	%	10.11.17 18:12			

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.45	17.2	13.5	78	15.5	80	35-129	14	20	mg/kg	10.08.17 22:29	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene			89		99		76-123	%	10.08.17 22:29			
a,a,a-Trifluorotoluene			83		95		69-120	%	10.08.17 22:29			

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.85	19.3	16.6	86	14.9	78	35-129	11	20	mg/kg	10.09.17 18:55	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene			105		121		76-123	%	10.09.17 18:55			
a,a,a-Trifluorotoluene			100		107		69-120	%	10.09.17 18:55			



QC Summary 564862

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030204

Parent Sample Id: 564935-001

Matrix: Soil

MS Sample Id: 564935-001 S

Prep Method: SW5030B

Date Prep: 10.11.17

MSD Sample Id: 564935-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.82	19.1	22.4	117	25.1	127	35-129	11	20	mg/kg	10.11.17 21:48	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	111		121		76-123	%	10.11.17 21:48
a,a,a-Trifluorotoluene	98		100		69-120	%	10.11.17 21:48



Setting the Standard since 1990

Stafford, Texas (281-240-4200)

Dallas Texas (214-902-0300)

564862

CHAIN OF CUSTODY

Page 1 Of 1

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

www.xenco.com

Phoenix, Arizona (480-355-0900)

Xenco Quote #		Xenco Job #		564862			
Client / Reporting Information		Project Information		Analytical Information			
Company Name / Branch: TRC Environmental Corporation		Project Name/Number: Owl 20504 JV-P #005 SWD		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			
Company Address: 2057 Commerce Drive Midland, TX 79703		Project Location: Eddy Co, NM					
Email: jlowry@trcsolutions.com		Invoice To: COG Operating C/O Becky Haskell					
Phone No: 432-466-4450		Invoice:					
Project Contact: Joel Lowry		Sampler's Name: Joel Lowry					
Field ID / Point of Collection		Collection		Data Deliverable Information			
No.	Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles	Notes
1	TT-3 @ Surf.	10/3/2017		S	1	TPH 8015 M Ext	BTEX 8021B Chloride F 300
2	TT-3 @ 1'	10/3/2017		S	1		
3	TT-3 @ 2'	10/3/2017		S	1		
4	TT-3 @ 3'	10/3/2017		S	1		
5							
6							
7							
Turnaround Time (Business days)		Level II Std QC		Level IV (Full Data Pkg /raw data)		Notes:	
☐ Same Day TAT		☐ 5 Day TAT		☐ Level III Std QC+ Forms		jlowry@trcsolutions.com	
☐ Next Day EMERGENCY		☐ 7 Day TAT		☐ TRRP Level IV		rhaskell@concho.com	
☐ 2 Day EMERGENCY		☒ Contract TAT		☐ Level 3 (CLP Forms)		sdstanley@trcsolutions.com	
☐ 3 Day EMERGENCY		☐ TRRP Checklist		☐ UST / RG -411			
TAT Starts Day received by Lab, if received by 5:00 pm		FED-EX / UPS: Tracking #					
Relinquished by Sampler:		SAMPLE CUSTODY MUST BE DOCUMENTED BEFORE EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY					
1	Date Time:	Relinquished By:	Date Time:	Relinquished By:	Date Time:	Relinquished By:	Date Time:
2	10:55:01	[Signature]		[Signature]			
3	Date Time:	Relinquished By:	Date Time:	Relinquished By:	Date Time:	Relinquished By:	Date Time:
4							
5	Date Time:	Relinquished By:	Date Time:	Relinquished By:	Date Time:	Relinquished By:	Date Time:
6							
Relinquished by:		Custody Seal #		Preserved where applicable		On Ice Cooler Temp. Thermo. Corr. Factor	
		4				4.3/4.2	

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: 10/05/2017 05:01:00 PM

Work Order #: 564862

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564866

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 16-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	564866-001	564866-002	564866-003	564866-004	564866-005	564866-006
	<i>Field Id:</i>	TT-4 Surf.	TT-4 1'	TT-4 2'	TT-4 3'	TT-4 4'	TT-4 6'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-10-17 14:30	Oct-06-17 14:00				
	<i>Analyzed:</i>	Oct-11-17 08:15	Oct-09-17 01:38				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Benzene		<0.0193 0.0193	<0.0170 0.0170				
Toluene		<0.0193 0.0193	<0.0170 0.0170				
Ethylbenzene		<0.0193 0.0193	<0.0170 0.0170				
Xylenes, Total		<0.0193 0.0193	<0.017 0.017				
Total BTEX		<0.0193 0.0193	<0.017 0.017				
Chloride by EPA 300	<i>Extracted:</i>	Oct-16-17 08:00	Oct-16-17 08:00	Oct-16-17 08:00	Oct-16-17 08:00	Oct-16-17 08:00	Oct-16-17 08:00
	<i>Analyzed:</i>	Oct-16-17 09:51	Oct-16-17 10:15	Oct-16-17 11:05	Oct-16-17 11:30	Oct-16-17 11:55	Oct-16-17 12:32
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2330 D 1250	3820 250	3940 250	4390 D 2500	4420 D 2500	2560 D 1250
DRO-ORO By SW8015B	<i>Extracted:</i>	Oct-06-17 14:15	Oct-06-17 14:15				
	<i>Analyzed:</i>	Oct-08-17 04:50	Oct-08-17 05:25				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Diesel Range Organics (DRO)		243 25.0	<25.0 25.0				
Oil Range Hydrocarbons (ORO)		48.5 25.0	<25.0 25.0				
TPH GRO by EPA 8015 Mod.	<i>Extracted:</i>	Oct-10-17 14:30	Oct-06-17 14:00				
	<i>Analyzed:</i>	Oct-11-17 08:15	Oct-09-17 01:38				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
TPH-GRO		<3.87 3.87	<3.40 3.40				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 564866

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 16-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564866-007					
	Field Id:	TT-4 8'-G					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Oct-03-17 00:00					
BTEX by EPA 8021B	Extracted:	Oct-06-17 14:00					
	Analyzed:	Oct-09-17 02:05					
	Units/RL:	mg/kg RL					
Benzene		<0.0200 0.0200					
Toluene		<0.0200 0.0200					
Ethylbenzene		<0.0200 0.0200					
Xylenes, Total		<0.02 0.02					
Total BTEX		<0.02 0.02					
Chloride by EPA 300	Extracted:	Oct-16-17 08:00					
	Analyzed:	Oct-16-17 12:57					
	Units/RL:	mg/kg RL					
Chloride		186 125					
DRO-ORO By SW8015B	Extracted:	Oct-06-17 14:15					
	Analyzed:	Oct-08-17 06:01					
	Units/RL:	mg/kg RL					
Diesel Range Organics (DRO)		<25.0 25.0					
Oil Range Hydrocarbons (ORO)		<25.0 25.0					
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-06-17 14:00					
	Analyzed:	Oct-09-17 02:05					
	Units/RL:	mg/kg RL					
TPH-GRO		<4.00 4.00					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564866

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

16-OCT-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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



16-OCT-17

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

Reference: XENCO Report No(s): **564866**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564866. 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. 564866 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564866

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-4 Surf.	S	10-03-17 00:00		564866-001
TT-4 1'	S	10-03-17 00:00		564866-002
TT-4 2'	S	10-03-17 00:00		564866-003
TT-4 3'	S	10-03-17 00:00		564866-004
TT-4 4'	S	10-03-17 00:00		564866-005
TT-4 6'	S	10-03-17 00:00		564866-006
TT-4 8'-G	S	10-03-17 00:00		564866-007



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 564866

Report Date: 16-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029875 BTEX by EPA 8021B

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

Batch: LBA-3029949 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564855-001 S, 564855-001 SD, 564866-001.

Batch: LBA-3030116 BTEX by EPA 8021B

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

Batch: LBA-3030531 Inorganic Anions by EPA 300

Lab Sample ID 564866-007 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564866-001, -002, -003, -004, -005, -006, -007.

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



Certificate of Analytical Results 564866

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-4 Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564866-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 08.00

Basis: Wet Weight

Seq Number: 3030531

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2330	1250	mg/kg	10.16.17 10.03	D	50

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	243	25.0	mg/kg	10.08.17 04.50		1
Oil Range Hydrocarbons (ORO)	PHCG2835	48.5	25.0	mg/kg	10.08.17 04.50		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	263	%	65-144	10.08.17 04.50	**
n-Triacontane	638-68-6	144	%	46-152	10.08.17 04.50	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.10.17 14.30

Basis: Wet Weight

Seq Number: 3030116

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0193	0.0193	mg/kg	10.11.17 08.15	U	1
Toluene	108-88-3	<0.0193	0.0193	mg/kg	10.11.17 08.15	U	1
Ethylbenzene	100-41-4	<0.0193	0.0193	mg/kg	10.11.17 08.15	U	1
Xylenes, Total	1330-20-7	<0.0193	0.0193	mg/kg	10.11.17 08.15	U	1
Total BTEX		<0.0193	0.0193	mg/kg	10.11.17 08.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	10.11.17 08.15	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.11.17 08.15	



Certificate of Analytical Results 564866

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-4 Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564866-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.10.17 14.30

Basis: Wet Weight

Seq Number: 3030118

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.87	3.87	mg/kg	10.11.17 08.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	76-123	10.11.17 08.15		
a,a,a-Trifluorotoluene	98-08-8	119	%	69-120	10.11.17 08.15		



Certificate of Analytical Results 564866

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-4 1'**
Lab Sample Id: 564866-002

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030531

Prep Method: E300P

% Moisture:

Date Prep: 10.16.17 08.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3820	250	mg/kg	10.16.17 10.15		10

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029949

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 05.25	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 05.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	120	%	65-144	10.08.17 05.25	
n-Triacontane	638-68-6	115	%	46-152	10.08.17 05.25	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029875

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0170	0.0170	mg/kg	10.09.17 01.38	U	1
Toluene	108-88-3	<0.0170	0.0170	mg/kg	10.09.17 01.38	U	1
Ethylbenzene	100-41-4	<0.0170	0.0170	mg/kg	10.09.17 01.38	U	1
Xylenes, Total	1330-20-7	<0.017	0.017	mg/kg	10.09.17 01.38	U	1
Total BTEX		<0.017	0.017	mg/kg	10.09.17 01.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	68-120	10.09.17 01.38	
a,a,a-Trifluorotoluene	98-08-8	108	%	71-121	10.09.17 01.38	



Certificate of Analytical Results 564866

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-4 1'**
Lab Sample Id: 564866-002

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.40	3.40	mg/kg	10.09.17 01.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	76-123	10.09.17 01.38		
a,a,a-Trifluorotoluene	98-08-8	103	%	69-120	10.09.17 01.38		



Certificate of Analytical Results 564866

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-4 2'**
Lab Sample Id: 564866-003

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 08.00

Basis: Wet Weight

Seq Number: 3030531

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3940	250	mg/kg	10.16.17 11.05		10



Certificate of Analytical Results 564866

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-4 3'**
Lab Sample Id: 564866-004

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 08.00

Basis: Wet Weight

Seq Number: 3030531

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4390	2500	mg/kg	10.16.17 11.42	D	100



Certificate of Analytical Results 564866

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-4 4'**
Lab Sample Id: 564866-005

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 08.00

Basis: Wet Weight

Seq Number: 3030531

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4420	2500	mg/kg	10.16.17 12.07	D	100



Certificate of Analytical Results 564866

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-4 6'**
Lab Sample Id: 564866-006

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 08.00

Basis: Wet Weight

Seq Number: 3030531

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2560	1250	mg/kg	10.16.17 12.44	D	50



Certificate of Analytical Results 564866

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-4 8'-G**
Lab Sample Id: 564866-007

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030531

Prep Method: E300P

% Moisture:

Date Prep: 10.16.17 08.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	186	125	mg/kg	10.16.17 12.57		5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029949

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 06.01	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 06.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	116	%	65-144	10.08.17 06.01	
n-Triacontane	638-68-6	113	%	46-152	10.08.17 06.01	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029875

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	10.09.17 02.05	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	10.09.17 02.05	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	10.09.17 02.05	U	1
Xylenes, Total	1330-20-7	<0.02	0.02	mg/kg	10.09.17 02.05	U	1
Total BTEX		<0.02	0.02	mg/kg	10.09.17 02.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	68-120	10.09.17 02.05	
a,a,a-Trifluorotoluene	98-08-8	107	%	71-121	10.09.17 02.05	



Certificate of Analytical Results 564866

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-4 8'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564866-007

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<4.00	4.00	mg/kg	10.09.17 02.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	76-123	10.09.17 02.05		
a,a,a-Trifluorotoluene	98-08-8	102	%	69-120	10.09.17 02.05		

- 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

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(602) 437-0330	



QC Summary 564866

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030531

MB Sample Id: 7632646-1-BLK

Matrix: Solid

LCS Sample Id: 7632646-1-BKS

Prep Method: E300P

Date Prep: 10.16.17

LCSD Sample Id: 7632646-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	242	97	239	96	90-110	1	20	mg/kg	10.16.17 09:26	

Analytical Method: Chloride by EPA 300

Seq Number: 3030531

Parent Sample Id: 564866-002

Matrix: Soil

MS Sample Id: 564866-002 S

Prep Method: E300P

Date Prep: 10.16.17

MSD Sample Id: 564866-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3820	250	3350	0	3410	0	80-120	2	20	mg/kg	10.16.17 10:40	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030531

Parent Sample Id: 564866-007

Matrix: Soil

MS Sample Id: 564866-007 S

Prep Method: E300P

Date Prep: 10.16.17

MSD Sample Id: 564866-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.16.17 13:22	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

MB Sample Id: 7632252-1-BLK

Matrix: Solid

LCS Sample Id: 7632252-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632252-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	116	116	114	114	63-139	2	20	mg/kg	10.07.17 21:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	116		118		119		65-144	%	10.07.17 21:08
n-Triacontane	100		92		94		46-152	%	10.07.17 21:08

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	137	137	135	135	63-139	1	20	mg/kg	10.07.17 22:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	163	**	153	**	65-144	%	10.07.17 22:56
n-Triacontane	119		113		46-152	%	10.07.17 22:56

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

MB Sample Id: 7632206-1-BLK

Matrix: Solid

LCS Sample Id: 7632206-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632206-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.01	101	2.00	100	55-120	0	20	mg/kg	10.08.17 17:59	
Toluene	<0.0200	2.00	2.01	101	2.02	101	77-120	0	20	mg/kg	10.08.17 17:59	
Ethylbenzene	<0.0200	2.00	1.96	98	2.00	100	77-120	2	20	mg/kg	10.08.17 17:59	
Xylenes, Total	0	6	5.87	98	5.97	100	71-133	2	20	mg/kg	10.08.17 17:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		99		99		68-120	%	10.08.17 17:59
a,a,a-Trifluorotoluene	98		95		96		71-121	%	10.08.17 17:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030116

MB Sample Id: 7632395-1-BLK

Matrix: Solid

LCS Sample Id: 7632395-1-BKS

Prep Method: SW5030B

Date Prep: 10.10.17

LCSD Sample Id: 7632395-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.12	106	1.80	90	55-120	16	20	mg/kg	10.11.17 02:24	
Toluene	<0.0200	2.00	2.12	106	1.82	91	77-120	15	20	mg/kg	10.11.17 02:24	
Ethylbenzene	<0.0200	2.00	2.07	104	1.79	90	77-120	15	20	mg/kg	10.11.17 02:24	
Xylenes, Total	0	6	6.22	104	5.36	89	71-133	0	20	mg/kg	10.11.17 02:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	103		101		86		68-120	%	10.11.17 02:24
a,a,a-Trifluorotoluene	104		95		83		71-121	%	10.11.17 02:24

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0197	1.97	1.87	95	1.77	95	54-120	5	25	mg/kg	10.08.17 21:36	
Toluene	<0.0197	1.97	2.01	102	1.92	103	57-120	5	25	mg/kg	10.08.17 21:36	
Ethylbenzene	<0.0197	1.97	2.08	106	1.99	107	58-131	4	25	mg/kg	10.08.17 21:36	
Xylenes, Total	0	5.91	6.23	105	5.98	107	71-133	4	20	mg/kg	10.08.17 21:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		102		68-120	%	10.08.17 21:36
a,a,a-Trifluorotoluene	105		104		71-121	%	10.08.17 21:36

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030116

Parent Sample Id: 564857-001

Matrix: Soil

MS Sample Id: 564857-001 S

Prep Method: SW5030B

Date Prep: 10.10.17

MSD Sample Id: 564857-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0189	1.89	1.82	96	1.91	99	54-120	5	25	mg/kg	10.11.17 06:01	
Toluene	<0.0189	1.89	1.95	103	2.03	105	57-120	4	25	mg/kg	10.11.17 06:01	
Ethylbenzene	<0.0189	1.89	2.01	106	2.09	108	58-131	4	25	mg/kg	10.11.17 06:01	
Xylenes, Total	0	5.67	5.94	105	6.2	107	71-133	0	20	mg/kg	10.11.17 06:01	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		102		68-120	%	10.11.17 06:01
a,a,a-Trifluorotoluene	108		108		71-121	%	10.11.17 06:01

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

MB Sample Id: 7632209-1-BLK

Matrix: Solid

LCS Sample Id: 7632209-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632209-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	15.4	77	16.5	83	35-129	7	20	mg/kg	10.08.17 18:53	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	94		82		83		76-123	%	10.08.17 18:53
a,a,a-Trifluorotoluene	104		88		89		69-120	%	10.08.17 18:53

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030118

MB Sample Id: 7632396-1-BLK

Matrix: Solid

LCS Sample Id: 7632396-1-BKS

Prep Method: SW5030B

Date Prep: 10.10.17

LCSD Sample Id: 7632396-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	22.8	114	25.3	127	35-129	10	20	mg/kg	10.11.17 03:19	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		109		112		76-123	%	10.11.17 03:19
a,a,a-Trifluorotoluene	111		103		105		69-120	%	10.11.17 03:19

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.45	17.2	13.5	78	15.5	80	35-129	14	20	mg/kg	10.08.17 22:29	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	89		99		76-123	%	10.08.17 22:29
a,a,a-Trifluorotoluene	83		95		69-120	%	10.08.17 22:29

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030118

Parent Sample Id: 564857-001

Matrix: Soil

MS Sample Id: 564857-001 S

Prep Method: SW5030B

Date Prep: 10.10.17

MSD Sample Id: 564857-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.98	19.9	24.4	123	24.5	124	35-129	0	20	mg/kg	10.11.17 06:55	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	118		114		76-123	%	10.11.17 06:55
a,a,a-Trifluorotoluene	103		101		69-120	%	10.11.17 06:55



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Final 1.000



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2017 05:00:00 PM

Work Order #: 564866

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.2
#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 IR-3
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564890

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005-SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 17-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	564890-001	564890-002	564890-003	564890-004	564890-005	
	<i>Field Id:</i>	TT-5 @ Surf.	TT-5 @ 1'	TT-5 @ 2'	TT-5 @ 3'	TT-5 @ 7'-G	
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00			Oct-06-17 14:00	
	<i>Analyzed:</i>	Oct-10-17 03:26	Oct-09-17 02:32			Oct-09-17 03:00	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			mg/kg RL	
Benzene		<0.0193 0.0193	<0.0193 0.0193			<0.0186 0.0186	
Toluene		<0.0193 0.0193	<0.0193 0.0193			<0.0186 0.0186	
Ethylbenzene		<0.0193 0.0193	<0.0193 0.0193			<0.0186 0.0186	
Xylenes, Total		<0.0193 0.0193	<0.0193 0.0193			<0.0186 0.0186	
Total BTEX		<0.0193 0.0193	<0.0193 0.0193			<0.0186 0.0186	
Chloride by EPA 300	<i>Extracted:</i>	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	
	<i>Analyzed:</i>	Oct-16-17 16:09	Oct-16-17 16:34	Oct-16-17 17:24	Oct-16-17 17:49	Oct-16-17 18:14	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		2060 125	346 125	721 125	348 125	<125 125	
DRO-ORO By SW8015B	<i>Extracted:</i>	Oct-06-17 14:15	Oct-06-17 14:15			Oct-06-17 14:15	
	<i>Analyzed:</i>	Oct-08-17 06:37	Oct-08-17 07:13			Oct-08-17 07:49	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			mg/kg RL	
Diesel Range Organics (DRO)		90.7 25.0	<25.0 25.0			<25.0 25.0	
Oil Range Hydrocarbons (ORO)		26.1 25.0	<25.0 25.0			<25.0 25.0	
TPH GRO by EPA 8015 Mod.	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00			Oct-06-17 14:00	
	<i>Analyzed:</i>	Oct-10-17 03:26	Oct-09-17 02:32			Oct-09-17 03:00	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			mg/kg RL	
TPH-GRO		<3.87 3.87	<3.87 3.87			<3.71 3.71	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.9%

Kelsey Brooks
Project Manager

Analytical Report 564890

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005-SWD

17-OCT-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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



17-OCT-17

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

Reference: XENCO Report No(s): **564890**
Owl 20504 JV-P #005-SWD
Project Address: Eddy 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) 564890. 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. 564890 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564890

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005-SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-5 @ Surf.	S	10-03-17 00:00		564890-001
TT-5 @ 1'	S	10-03-17 00:00		564890-002
TT-5 @ 2'	S	10-03-17 00:00		564890-003
TT-5 @ 3'	S	10-03-17 00:00		564890-004
TT-5 @ 7'-G	S	10-03-17 00:00		564890-005



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005-SWD

Project ID:

Work Order Number(s): 564890

Report Date: 17-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029875 BTEX by EPA 8021B

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

Batch: LBA-3029949 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564855-001 S, 564855-001 SD, 564890-001.

Batch: LBA-3029991 BTEX by EPA 8021B

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

Batch: LBA-3030589 Chloride by EPA 300

Lab Sample ID 564895-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564890-001, -002, -003, -004, -005.

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



Certificate of Analytical Results 564890

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005-SWD

Sample Id: **TT-5 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564890-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2060	125	mg/kg	10.16.17 16.09		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	90.7	25.0	mg/kg	10.08.17 06.37		1
Oil Range Hydrocarbons (ORO)	PHCG2835	26.1	25.0	mg/kg	10.08.17 06.37		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	179	%	65-144	10.08.17 06.37	**
n-Triacontane	638-68-6	127	%	46-152	10.08.17 06.37	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0193	0.0193	mg/kg	10.10.17 03.26	U	1
Toluene	108-88-3	<0.0193	0.0193	mg/kg	10.10.17 03.26	U	1
Ethylbenzene	100-41-4	<0.0193	0.0193	mg/kg	10.10.17 03.26	U	1
Xylenes, Total	1330-20-7	<0.0193	0.0193	mg/kg	10.10.17 03.26	U	1
Total BTEX		<0.0193	0.0193	mg/kg	10.10.17 03.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	68-120	10.10.17 03.26	
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	10.10.17 03.26	



Certificate of Analytical Results 564890

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005-SWD

Sample Id: **TT-5 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564890-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.87	3.87	mg/kg	10.10.17 03.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	76-123	10.10.17 03.26		
a,a,a-Trifluorotoluene	98-08-8	104	%	69-120	10.10.17 03.26		



Certificate of Analytical Results 564890

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005-SWD

Sample Id: TT-5 @ 1'
Lab Sample Id: 564890-002

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030589

Prep Method: E300P

% Moisture:

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	346	125	mg/kg	10.16.17 16.34		5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029949

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 07.13	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 07.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	10.08.17 07.13	
n-Triacontane	638-68-6	104	%	46-152	10.08.17 07.13	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029875

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0193	0.0193	mg/kg	10.09.17 02.32	U	1
Toluene	108-88-3	<0.0193	0.0193	mg/kg	10.09.17 02.32	U	1
Ethylbenzene	100-41-4	<0.0193	0.0193	mg/kg	10.09.17 02.32	U	1
Xylenes, Total	1330-20-7	<0.0193	0.0193	mg/kg	10.09.17 02.32	U	1
Total BTEX		<0.0193	0.0193	mg/kg	10.09.17 02.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	68-120	10.09.17 02.32	
a,a,a-Trifluorotoluene	98-08-8	108	%	71-121	10.09.17 02.32	



Certificate of Analytical Results 564890

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005-SWD

Sample Id: **TT-5 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564890-002

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.87	3.87	mg/kg	10.09.17 02.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	76-123	10.09.17 02.32		
a,a,a-Trifluorotoluene	98-08-8	104	%	69-120	10.09.17 02.32		



Certificate of Analytical Results 564890

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005-SWD

Sample Id: TT-5 @ 2'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564890-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	721	125	mg/kg	10.16.17 17.24		5



Certificate of Analytical Results 564890

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005-SWD

Sample Id: TT-5 @ 3'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564890-004

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	348	125	mg/kg	10.16.17 17.49		5



Certificate of Analytical Results 564890

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005-SWD

Sample Id: TT-5 @ 7'-G

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564890-005

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.16.17 18.14	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 07.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 07.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	10.08.17 07.49	
n-Triacontane	638-68-6	106	%	46-152	10.08.17 07.49	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0186	0.0186	mg/kg	10.09.17 03.00	U	1
Toluene	108-88-3	<0.0186	0.0186	mg/kg	10.09.17 03.00	U	1
Ethylbenzene	100-41-4	<0.0186	0.0186	mg/kg	10.09.17 03.00	U	1
Xylenes, Total	1330-20-7	<0.0186	0.0186	mg/kg	10.09.17 03.00	U	1
Total BTEX		<0.0186	0.0186	mg/kg	10.09.17 03.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	68-120	10.09.17 03.00	
a,a,a-Trifluorotoluene	98-08-8	93	%	71-121	10.09.17 03.00	



Certificate of Analytical Results 564890

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005-SWD

Sample Id: **TT-5 @ 7'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564890-005

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.71	3.71	mg/kg	10.09.17 03.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	84	%	76-123	10.09.17 03.00		
a,a,a-Trifluorotoluene	98-08-8	89	%	69-120	10.09.17 03.00		

- 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

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(432) 563-1800	(432) 563-1713
(602) 437-0330	



QC Summary 564890

TRC Solutions, Inc
Owl 20504 JV-P #005-SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030589

MB Sample Id: 7632702-1-BLK

Matrix: Solid

LCS Sample Id: 7632702-1-BKS

Prep Method: E300P

Date Prep: 10.16.17

LCSD Sample Id: 7632702-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	238	95	242	97	90-110	2	20	mg/kg	10.16.17 15:45	

Analytical Method: Chloride by EPA 300

Seq Number: 3030589

Parent Sample Id: 564890-002

Matrix: Soil

MS Sample Id: 564890-002 S

Prep Method: E300P

Date Prep: 10.16.17

MSD Sample Id: 564890-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.16.17 16:59	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030589

Parent Sample Id: 564895-001

Matrix: Soil

MS Sample Id: 564895-001 S

Prep Method: E300P

Date Prep: 10.16.17

MSD Sample Id: 564895-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.16.17 19:16	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

MB Sample Id: 7632252-1-BLK

Matrix: Solid

LCS Sample Id: 7632252-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632252-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	116	116	114	114	63-139	2	20	mg/kg	10.07.17 21:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	116		118		119		65-144	%	10.07.17 21:08
n-Triacontane	100		92		94		46-152	%	10.07.17 21:08

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	137	137	135	135	63-139	1	20	mg/kg	10.07.17 22:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	163	**	153	**	65-144	%	10.07.17 22:56
n-Triacontane	119		113		46-152	%	10.07.17 22:56

TRC Solutions, Inc
Owl 20504 JV-P #005-SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

MB Sample Id: 7632206-1-BLK

Matrix: Solid

LCS Sample Id: 7632206-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632206-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.01	101	2.00	100	55-120	0	20	mg/kg	10.08.17 17:59	
Toluene	<0.0200	2.00	2.01	101	2.02	101	77-120	0	20	mg/kg	10.08.17 17:59	
Ethylbenzene	<0.0200	2.00	1.96	98	2.00	100	77-120	2	20	mg/kg	10.08.17 17:59	
Xylenes, Total	0	6	5.87	98	5.97	100	71-133	0	20	mg/kg	10.08.17 17:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		99		99		68-120	%	10.08.17 17:59
a,a,a-Trifluorotoluene	98		95		96		71-121	%	10.08.17 17:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

MB Sample Id: 7632293-1-BLK

Matrix: Solid

LCS Sample Id: 7632293-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632293-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.09	105	2.13	107	55-120	2	20	mg/kg	10.09.17 14:23	
Toluene	<0.0200	2.00	2.11	106	2.15	108	77-120	2	20	mg/kg	10.09.17 14:23	
Ethylbenzene	<0.0200	2.00	2.07	104	2.15	108	77-120	4	20	mg/kg	10.09.17 14:23	
Xylenes, Total	0	6	6.21	104	6.44	107	71-133	0	20	mg/kg	10.09.17 14:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		102		103		68-120	%	10.09.17 14:23
a,a,a-Trifluorotoluene	104		96		100		71-121	%	10.09.17 14:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0197	1.97	1.87	95	1.77	95	54-120	5	25	mg/kg	10.08.17 21:36	
Toluene	<0.0197	1.97	2.01	102	1.92	103	57-120	5	25	mg/kg	10.08.17 21:36	
Ethylbenzene	<0.0197	1.97	2.08	106	1.99	107	58-131	4	25	mg/kg	10.08.17 21:36	
Xylenes, Total	0	5.91	6.23	105	5.98	107	71-133	0	20	mg/kg	10.08.17 21:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		102		68-120	%	10.08.17 21:36
a,a,a-Trifluorotoluene	105		104		71-121	%	10.08.17 21:36

TRC Solutions, Inc
Owl 20504 JV-P #005-SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0195	1.95	2.08	107	2.07	107	54-120	0	25	mg/kg	10.09.17 18:00	
Toluene	<0.0195	1.95	2.25	115	2.26	117	57-120	0	25	mg/kg	10.09.17 18:00	
Ethylbenzene	<0.0195	1.95	2.32	119	2.01	104	58-131	14	25	mg/kg	10.09.17 18:00	
Xylenes, Total	0	5.85	6.94	119	6.66	115	71-133	0	20	mg/kg	10.09.17 18:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		110		68-120	%	10.09.17 18:00
a,a,a-Trifluorotoluene	109		111		71-121	%	10.09.17 18:00

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

MB Sample Id: 7632209-1-BLK

Matrix: Solid

LCS Sample Id: 7632209-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632209-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	15.4	77	16.5	83	35-129	7	20	mg/kg	10.08.17 18:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	94		82		83		76-123	%	10.08.17 18:53
a,a,a-Trifluorotoluene	104		88		89		69-120	%	10.08.17 18:53

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

MB Sample Id: 7632294-1-BLK

Matrix: Solid

LCS Sample Id: 7632294-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632294-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	20.7	104	20.1	101	35-129	3	20	mg/kg	10.09.17 15:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	110		114		97		76-123	%	10.09.17 15:17
a,a,a-Trifluorotoluene	116		108		96		69-120	%	10.09.17 15:17

TRC Solutions, Inc
Owl 20504 JV-P #005-SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.45	17.2	13.5	78	15.5	80	35-129	14	20	mg/kg	10.08.17 22:29	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	89		99		76-123	%	10.08.17 22:29
a,a,a-Trifluorotoluene	83		95		69-120	%	10.08.17 22:29

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.85	19.3	16.6	86	14.9	78	35-129	11	20	mg/kg	10.09.17 18:55	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	105		121		76-123	%	10.09.17 18:55
a,a,a-Trifluorotoluene	100		107		69-120	%	10.09.17 18:55



Page 1 Of 1

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Xenco Job #

Client / Reporting Information							Project Information						Analytical Information								Matrix Codes	
Company Name / Branch: TRC Environmental Corporation							Project Name/Number: Ow/ 20504 JV-P #005 SWD														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 WW= Waste Water A = Air	
Company Address: 2057 Commerce Drive Midland, TX 79703							Project Location: Eddy Co, NM															
Email: jlowry@trcsolutions.com							Phone No: 432-466-4450						Invoice To: COG Operating C/O Becky Haskell									
Project Contact: Joel Lowry							Invoice:															
Sampler's Name Joel Lowry																						
No.	Field ID / Point of Collection	Sample Depth	Collection Date	Time	# of bottles	HCl	NaOH/Zn	HNO ₃	H ₂ SO ₄	NaOH	MEOH	NONE	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Field Comments						
1	TT-5 @ Surf.	Surf	10/3/2017	S	1								X	X		1						
2	TT-5 @ 1'	1	10/3/2017	S	1								X	X		2						
3	TT-5 @ 2'	2	10/3/2017	S	1								X			3						
4	TT-5 @ 3'	3	10/3/2017	S	1								X			4						
5	TT-4 @ 7'-G	7	10/3/2017	S	1								X	X		5						
Turnaround Time (Business days)																	Notes:					
☐ Same Day TAT ☐ 5 Day TAT ☐ Level II Std QC ☐ Level IV (Full Data Pkg /raw data) jlowry@trcsolutions.com																						
☐ Next Day EMERGENCY ☐ 7 Day TAT ☐ Level III Std QC+ Forms ☐ TRRP Level IV rhaskell@concho.com																						
☐ 2 Day EMERGENCY ☒ Contract TAT ☐ Level 3 (CLP Forms) ☐ UST / RG -411 sdstanley@trcsolutions.com																						
☐ 3 Day EMERGENCY ☐ TRRP Checklist																						
TAT Starts Day received by Lab, if received by 5:00 pm																	FED-EX / UPS: Tracking #					
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																						
Relinquished by Sampler: <i>[Signature]</i> Received By: <i>[Signature]</i> Date Time: 10/5/2017 Relinquished By: 2 Date Time:																						
Relinquished by: <i>[Signature]</i> Received By: <i>[Signature]</i> Date Time: 3 Date Time:																						
Relinquished by: <i>[Signature]</i> Received By: <i>[Signature]</i> Date Time: 5 Date Time:																						
On Ice Cooler Temp Therm. Corr. Factor																						

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 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: 10/05/2017 05:00:00 PM

Work Order #: 564890

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564895

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 18-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	564895-001	564895-002	564895-003	564895-004	564895-005	
	<i>Field Id:</i>	TT-6 @ Surf.	TT-6 @ 1'	TT-6 @ 2'	TT-6 @ 3'	TT-6 @ 4'-G	
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00			Oct-06-17 14:00	
	<i>Analyzed:</i>	Oct-09-17 03:27	Oct-09-17 05:16			Oct-09-17 05:43	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			mg/kg RL	
Benzene		<0.0187 0.0187	<0.0198 0.0198			<0.0195 0.0195	
Toluene		<0.0187 0.0187	<0.0198 0.0198			<0.0195 0.0195	
Ethylbenzene		<0.0187 0.0187	<0.0198 0.0198			<0.0195 0.0195	
Xylenes, Total		<0.0187 0.0187	<0.0198 0.0198			<0.0195 0.0195	
Total BTEX		<0.0187 0.0187	<0.0198 0.0198			<0.0195 0.0195	
Chloride by EPA 300	<i>Extracted:</i>	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	
	<i>Analyzed:</i>	Oct-16-17 18:51	Oct-16-17 19:40	Oct-16-17 20:05	Oct-16-17 20:30	Oct-16-17 20:55	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		<125 125	1740 1250	471 125	<125 125	<125 125	
DRO-ORO By SW8015B	<i>Extracted:</i>	Oct-06-17 14:15	Oct-17-17 15:48	Oct-17-17 15:48		Oct-06-17 14:15	
	<i>Analyzed:</i>	Oct-08-17 08:25	Oct-18-17 08:41	Oct-18-17 10:27		Oct-08-17 09:01	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL		mg/kg RL	
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0		<25.0 25.0	
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0	<25.0 25.0		<25.0 25.0	
TPH GRO by EPA 8015 Mod.	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00	Oct-17-17 12:30		Oct-06-17 14:00	
	<i>Analyzed:</i>	Oct-09-17 03:27	Oct-09-17 05:16	Oct-17-17 19:12		Oct-09-17 05:43	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL		mg/kg RL	
TPH-GRO		<3.75 3.75	<4.00 4.00	<4.00 4.00		<3.89 3.89	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564895

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

18-OCT-17

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)



18-OCT-17

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

Reference: XENCO Report No(s): **564895**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564895. 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. 564895 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564895

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-6 @ Surf.	S	10-03-17 00:00		564895-001
TT-6 @ 1'	S	10-03-17 00:00		564895-002
TT-6 @ 2'	S	10-03-17 00:00		564895-003
TT-6 @ 3'	S	10-03-17 00:00		564895-004
TT-6 @ 4'-G	S	10-03-17 00:00		564895-005



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 564895

Report Date: 18-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029875 BTEX by EPA 8021B

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

Batch: LBA-3029949 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564855-001 S, 564855-001 SD.

Batch: LBA-3030589 Chloride by EPA 300

Lab Sample ID 564895-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564895-001, -002, -003, -004, -005. The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3030707 TPH GRO by EPA 8015 Mod.

Surrogate a,a,a-Trifluorotoluene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7632756-1-BLK, 564895-003.



Certificate of Analytical Results 564895

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-6 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564895-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.16.17 18.51	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 08.25	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 08.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	129	%	65-144	10.08.17 08.25	
n-Triacontane	638-68-6	113	%	46-152	10.08.17 08.25	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0187	0.0187	mg/kg	10.09.17 03.27	U	1
Toluene	108-88-3	<0.0187	0.0187	mg/kg	10.09.17 03.27	U	1
Ethylbenzene	100-41-4	<0.0187	0.0187	mg/kg	10.09.17 03.27	U	1
Xylenes, Total	1330-20-7	<0.0187	0.0187	mg/kg	10.09.17 03.27	U	1
Total BTEX		<0.0187	0.0187	mg/kg	10.09.17 03.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	68-120	10.09.17 03.27	
a,a,a-Trifluorotoluene	98-08-8	106	%	71-121	10.09.17 03.27	



Certificate of Analytical Results 564895

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-6 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564895-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.75	3.75	mg/kg	10.09.17 03.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	76-123	10.09.17 03.27		
a,a,a-Trifluorotoluene	98-08-8	101	%	69-120	10.09.17 03.27		



Certificate of Analytical Results 564895

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-6 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564895-002

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1740	1250	mg/kg	10.16.17 19.40		50

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.17.17 15.48

Basis: Wet Weight

Seq Number: 3030736

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.18.17 08.41	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.18.17 08.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	123	%	65-144	10.18.17 08.41	
n-Triacontane	638-68-6	100	%	46-152	10.18.17 08.41	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0198	0.0198	mg/kg	10.09.17 05.16	U	1
Toluene	108-88-3	<0.0198	0.0198	mg/kg	10.09.17 05.16	U	1
Ethylbenzene	100-41-4	<0.0198	0.0198	mg/kg	10.09.17 05.16	U	1
Xylenes, Total	1330-20-7	<0.0198	0.0198	mg/kg	10.09.17 05.16	U	1
Total BTEX		<0.0198	0.0198	mg/kg	10.09.17 05.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	68-120	10.09.17 05.16	
a,a,a-Trifluorotoluene	98-08-8	108	%	71-121	10.09.17 05.16	



Certificate of Analytical Results 564895

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-6 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564895-002

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<4.00	4.00	mg/kg	10.09.17 05.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	76-123	10.09.17 05.16		
a,a,a-Trifluorotoluene	98-08-8	101	%	69-120	10.09.17 05.16		



Certificate of Analytical Results 564895

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-6 @ 2'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564895-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	471	125	mg/kg	10.16.17 20.05		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.17.17 15.48

Basis: Wet Weight

Seq Number: 3030736

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.18.17 10.27	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.18.17 10.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	132	%	65-144	10.18.17 10.27	
n-Triacontane	638-68-6	115	%	46-152	10.18.17 10.27	

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.17.17 12.30

Basis: Wet Weight

Seq Number: 3030707

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<4.00	4.00	mg/kg	10.17.17 19.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	76-123	10.17.17 19.12	
a,a,a-Trifluorotoluene	98-08-8	121	%	69-120	10.17.17 19.12	**



Certificate of Analytical Results 564895

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-6 @ 3'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564895-004

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.16.17 20.30	U	5



Certificate of Analytical Results 564895

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-6 @ 4'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564895-005

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030589

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.16.17 20.55	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 09.01	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 09.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	120	%	65-144	10.08.17 09.01	
n-Triacontane	638-68-6	106	%	46-152	10.08.17 09.01	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0195	0.0195	mg/kg	10.09.17 05.43	U	1
Toluene	108-88-3	<0.0195	0.0195	mg/kg	10.09.17 05.43	U	1
Ethylbenzene	100-41-4	<0.0195	0.0195	mg/kg	10.09.17 05.43	U	1
Xylenes, Total	1330-20-7	<0.0195	0.0195	mg/kg	10.09.17 05.43	U	1
Total BTEX		<0.0195	0.0195	mg/kg	10.09.17 05.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	10.09.17 05.43	
a,a,a-Trifluorotoluene	98-08-8	105	%	71-121	10.09.17 05.43	



Certificate of Analytical Results 564895

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-6 @ 4'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564895-005

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.89	3.89	mg/kg	10.09.17 05.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	76-123	10.09.17 05.43		
a,a,a-Trifluorotoluene	98-08-8	99	%	69-120	10.09.17 05.43		

- 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

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(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



QC Summary 564895

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030589

MB Sample Id: 7632702-1-BLK

Matrix: Solid

LCS Sample Id: 7632702-1-BKS

Prep Method: E300P

Date Prep: 10.16.17

LCSD Sample Id: 7632702-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	238	95	242	97	90-110	2	20	mg/kg	10.16.17 15:45	

Analytical Method: Chloride by EPA 300

Seq Number: 3030589

Parent Sample Id: 564890-002

Matrix: Soil

MS Sample Id: 564890-002 S

Prep Method: E300P

Date Prep: 10.16.17

MSD Sample Id: 564890-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.16.17 16:59	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030589

Parent Sample Id: 564895-001

Matrix: Soil

MS Sample Id: 564895-001 S

Prep Method: E300P

Date Prep: 10.16.17

MSD Sample Id: 564895-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.16.17 19:16	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

MB Sample Id: 7632252-1-BLK

Matrix: Solid

LCS Sample Id: 7632252-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632252-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	116	116	114	114	63-139	2	20	mg/kg	10.07.17 21:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	116		118		119		65-144	%	10.07.17 21:08
n-Triacontane	100		92		94		46-152	%	10.07.17 21:08

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3030736

MB Sample Id: 7632772-1-BLK

Matrix: Solid

LCS Sample Id: 7632772-1-BKS

Prep Method: SW8015P

Date Prep: 10.17.17

LCSD Sample Id: 7632772-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	117	117	116	116	63-139	1	20	mg/kg	10.18.17 07:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	116		116		112		65-144	%	10.18.17 07:29
n-Triacontane	96		91		87		46-152	%	10.18.17 07:29



QC Summary 564895

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	137	137	135	135	63-139	1	20	mg/kg	10.07.17 22:56	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits			Units	Analysis Date	
Tricosane			163	**	153	**	65-144			%	10.07.17 22:56	
n-Triacontane			119		113		46-152			%	10.07.17 22:56	

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3030736

Parent Sample Id: 564895-002

Matrix: Soil

MS Sample Id: 564895-002 S

Prep Method: SW8015P

Date Prep: 10.17.17

MSD Sample Id: 564895-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	130	130	132	132	63-139	2	20	mg/kg	10.18.17 09:16	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits			Units	Analysis Date	
Tricosane			131		139		65-144			%	10.18.17 09:16	
n-Triacontane			99		105		46-152			%	10.18.17 09:16	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

MB Sample Id: 7632206-1-BLK

Matrix: Solid

LCS Sample Id: 7632206-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632206-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.01	101	2.00	100	55-120	0	20	mg/kg	10.08.17 17:59	
Toluene	<0.0200	2.00	2.01	101	2.02	101	77-120	0	20	mg/kg	10.08.17 17:59	
Ethylbenzene	<0.0200	2.00	1.96	98	2.00	100	77-120	2	20	mg/kg	10.08.17 17:59	
Xylenes, Total	0	6	5.87	98	5.97	100	71-133	0	20	mg/kg	10.08.17 17:59	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
4-Bromofluorobenzene	100		99		99		68-120			%	10.08.17 17:59	
a,a,a-Trifluorotoluene	98		95		96		71-121			%	10.08.17 17:59	

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0197	1.97	1.87	95	1.77	95	54-120	5	25	mg/kg	10.08.17 21:36	
Toluene	<0.0197	1.97	2.01	102	1.92	103	57-120	5	25	mg/kg	10.08.17 21:36	
Ethylbenzene	<0.0197	1.97	2.08	106	1.99	107	58-131	4	25	mg/kg	10.08.17 21:36	
Xylenes, Total	0	5.91	6.23	105	5.98	107	71-133	0	20	mg/kg	10.08.17 21:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		102		68-120	%	10.08.17 21:36
a,a,a-Trifluorotoluene	105		104		71-121	%	10.08.17 21:36

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

MB Sample Id: 7632209-1-BLK

Matrix: Solid

LCS Sample Id: 7632209-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632209-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	15.4	77	16.5	83	35-129	7	20	mg/kg	10.08.17 18:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	94		82		83		76-123	%	10.08.17 18:53
a,a,a-Trifluorotoluene	104		88		89		69-120	%	10.08.17 18:53

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030707

MB Sample Id: 7632756-1-BLK

Matrix: Solid

LCS Sample Id: 7632756-1-BKS

Prep Method: SW5030B

Date Prep: 10.17.17

LCSD Sample Id: 7632756-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	25.1	126	25.6	128	35-129	2	20	mg/kg	10.17.17 16:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	105		108		107		76-123	%	10.17.17 16:57
a,a,a-Trifluorotoluene	121	**	110		109		69-120	%	10.17.17 16:57

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.45	17.2	13.5	78	15.5	80	35-129	14	20	mg/kg	10.08.17 22:29	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	89		99		76-123	%	10.08.17 22:29
a,a,a-Trifluorotoluene	83		95		69-120	%	10.08.17 22:29

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030707

Parent Sample Id: 564895-003

Matrix: Soil

MS Sample Id: 564895-003 S

Prep Method: SW5030B

Date Prep: 10.17.17

MSD Sample Id: 564895-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.91	19.5	13.2	68	14.3	73	35-129	8	20	mg/kg	10.17.17 19:39	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	116		96		76-123	%	10.17.17 19:39
a,a,a-Trifluorotoluene	111		89		69-120	%	10.17.17 19:39



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2017 05:00:00 PM

Work Order #: 564895

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564897

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 17-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	564897-001	564897-002	564897-003	564897-004	564897-005	
	<i>Field Id:</i>	TT-7 @ Surf.	TT-7 @ 1'	TT-7 @ 2'	TT-7 @ 3'	TT-7 @ 4'-G	
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00			Oct-06-17 14:00	
	<i>Analyzed:</i>	Oct-09-17 06:10	Oct-09-17 06:37			Oct-09-17 17:33	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			mg/kg RL	
Benzene		<0.0200 0.0200	<0.0176 0.0176			<0.0193 0.0193	
Toluene		<0.0200 0.0200	<0.0176 0.0176			<0.0193 0.0193	
Ethylbenzene		<0.0200 0.0200	<0.0176 0.0176			<0.0193 0.0193	
Xylenes, Total		<0.02 0.02	<0.0176 0.0176			<0.0193 0.0193	
Total BTEX		<0.02 0.02	<0.0176 0.0176			<0.0193 0.0193	
Chloride by EPA 300	<i>Extracted:</i>	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	
	<i>Analyzed:</i>	Oct-17-17 14:30	Oct-16-17 22:09	Oct-16-17 22:34	Oct-16-17 22:59	Oct-16-17 23:49	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		80.9 25.0	477 125	710 125	<125 125	<125 125	
DRO-ORO By SW8015B	<i>Extracted:</i>	Oct-06-17 14:15	Oct-06-17 14:15			Oct-06-17 14:15	
	<i>Analyzed:</i>	Oct-08-17 09:36	Oct-08-17 10:13			Oct-08-17 10:49	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			mg/kg RL	
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0			<25.0 25.0	
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0			<25.0 25.0	
TPH GRO by EPA 8015 Mod.	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00			Oct-06-17 14:00	
	<i>Analyzed:</i>	Oct-09-17 06:10	Oct-09-17 06:37			Oct-09-17 17:33	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			mg/kg RL	
TPH-GRO		<3.85 3.85	<3.52 3.52			<3.87 3.87	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Version: 1.0%

Kelsey Brooks
Project Manager

Analytical Report 564897

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

17-OCT-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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



17-OCT-17

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

Reference: XENCO Report No(s): **564897**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564897. 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. 564897 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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Sample Cross Reference 564897

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-7 @ Surf.	S	10-03-17 00:00		564897-001
TT-7 @ 1'	S	10-03-17 00:00		564897-002
TT-7 @ 2'	S	10-03-17 00:00		564897-003
TT-7 @ 3'	S	10-03-17 00:00		564897-004
TT-7 @ 4'-G	S	10-03-17 00:00		564897-005



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 564897

Report Date: 17-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029875 BTEX by EPA 8021B

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

Batch: LBA-3029949 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564855-001 S, 564855-001 SD.

Batch: LBA-3029991 BTEX by EPA 8021B

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

Batch: LBA-3030603 Chloride by EPA 300

Lab Sample ID 564897-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564897-002, -003, -004, -005.

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



Certificate of Analytical Results 564897

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-7 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564897-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030660

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	80.9	25.0	mg/kg	10.17.17 14.30		1

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 09.36	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 09.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	125	%	65-144	10.08.17 09.36	
n-Triacontane	638-68-6	110	%	46-152	10.08.17 09.36	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	10.09.17 06.10	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	10.09.17 06.10	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	10.09.17 06.10	U	1
Xylenes, Total	1330-20-7	<0.02	0.02	mg/kg	10.09.17 06.10	U	1
Total BTEX		<0.02	0.02	mg/kg	10.09.17 06.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	68-120	10.09.17 06.10	
a,a,a-Trifluorotoluene	98-08-8	107	%	71-121	10.09.17 06.10	



Certificate of Analytical Results 564897

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-7 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564897-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.85	3.85	mg/kg	10.09.17 06.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	76-123	10.09.17 06.10		
a,a,a-Trifluorotoluene	98-08-8	102	%	69-120	10.09.17 06.10		



Certificate of Analytical Results 564897

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: TT-7 @ 1'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564897-002

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	477	125	mg/kg	10.16.17 22.09		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 10.13	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 10.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	125	%	65-144	10.08.17 10.13	
n-Triacontane	638-68-6	109	%	46-152	10.08.17 10.13	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0176	0.0176	mg/kg	10.09.17 06.37	U	1
Toluene	108-88-3	<0.0176	0.0176	mg/kg	10.09.17 06.37	U	1
Ethylbenzene	100-41-4	<0.0176	0.0176	mg/kg	10.09.17 06.37	U	1
Xylenes, Total	1330-20-7	<0.0176	0.0176	mg/kg	10.09.17 06.37	U	1
Total BTEX		<0.0176	0.0176	mg/kg	10.09.17 06.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	10.09.17 06.37	
a,a,a-Trifluorotoluene	98-08-8	106	%	71-121	10.09.17 06.37	



Certificate of Analytical Results 564897

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-7 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564897-002

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.52	3.52	mg/kg	10.09.17 06.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	76-123	10.09.17 06.37		
a,a,a-Trifluorotoluene	98-08-8	101	%	69-120	10.09.17 06.37		



Certificate of Analytical Results 564897

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-7 @ 2'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564897-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	710	125	mg/kg	10.16.17 22.34		5



Certificate of Analytical Results 564897

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: TT-7 @ 3'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564897-004

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.16.17 22.59	U	5



Certificate of Analytical Results 564897

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: TT-7 @ 4'-G

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564897-005

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.16.17 23.49	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.15

Basis: Wet Weight

Seq Number: 3029949

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 10.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 10.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	120	%	65-144	10.08.17 10.49	
n-Triacontane	638-68-6	102	%	46-152	10.08.17 10.49	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0193	0.0193	mg/kg	10.09.17 17.33	U	1
Toluene	108-88-3	<0.0193	0.0193	mg/kg	10.09.17 17.33	U	1
Ethylbenzene	100-41-4	<0.0193	0.0193	mg/kg	10.09.17 17.33	U	1
Xylenes, Total	1330-20-7	<0.0193	0.0193	mg/kg	10.09.17 17.33	U	1
Total BTEX		<0.0193	0.0193	mg/kg	10.09.17 17.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	68-120	10.09.17 17.33	
a,a,a-Trifluorotoluene	98-08-8	98	%	71-121	10.09.17 17.33	



Certificate of Analytical Results 564897

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-7 @ 4'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564897-005

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.87	3.87	mg/kg	10.09.17 17.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	76-123	10.09.17 17.33		
a,a,a-Trifluorotoluene	98-08-8	105	%	69-120	10.09.17 17.33		

- 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.

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(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030603

MB Sample Id: 7632704-1-BLK

Matrix: Solid

LCS Sample Id: 7632704-1-BKS

Prep Method: E300P

Date Prep: 10.16.17

LCSD Sample Id: 7632704-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	239	96	234	94	90-110	2	20	mg/kg	10.16.17 21:45	

Analytical Method: Chloride by EPA 300

Seq Number: 3030603

MB Sample Id: 7632766-1-BLK

Matrix: Solid

LCS Sample Id: 7632766-1-BKS

Prep Method: E300P

Date Prep: 10.16.17

LCSD Sample Id: 7632766-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	240	96	238	95	90-110	1	20	mg/kg	10.17.17 12:01	

Analytical Method: Chloride by EPA 300

Seq Number: 3030603

Parent Sample Id: 564897-004

Matrix: Soil

MS Sample Id: 564897-004 S

Prep Method: E300P

Date Prep: 10.16.17

MSD Sample Id: 564897-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.16.17 23:24	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030603

Parent Sample Id: 564899-002

Matrix: Soil

MS Sample Id: 564899-002 S

Prep Method: E300P

Date Prep: 10.16.17

MSD Sample Id: 564899-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 12:50	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949

MB Sample Id: 7632252-1-BLK

Matrix: Solid

LCS Sample Id: 7632252-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632252-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	116	116	114	114	63-139	2	20	mg/kg	10.07.17 21:08	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	116		118		119		65-144	%	10.07.17 21:08
n-Triacontane	100		92		94		46-152	%	10.07.17 21:08



QC Summary 564897

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029949
Parent Sample Id: 564855-001

Matrix: Soil
MS Sample Id: 564855-001 S

Prep Method: SW8015P
Date Prep: 10.06.17
MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	137	137	135	135	63-139	1	20	mg/kg	10.07.17 22:56	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits			Units	Analysis Date	
Tricosane			163	**	153	**	65-144			%	10.07.17 22:56	
n-Triacontane			119		113		46-152			%	10.07.17 22:56	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875
MB Sample Id: 7632206-1-BLK

Matrix: Solid
LCS Sample Id: 7632206-1-BKS

Prep Method: SW5030B
Date Prep: 10.06.17
LCSD Sample Id: 7632206-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.01	101	2.00	100	55-120	0	20	mg/kg	10.08.17 17:59	
Toluene	<0.0200	2.00	2.01	101	2.02	101	77-120	0	20	mg/kg	10.08.17 17:59	
Ethylbenzene	<0.0200	2.00	1.96	98	2.00	100	77-120	2	20	mg/kg	10.08.17 17:59	
Xylenes, Total	0	6	5.87	98	5.97	100	71-133	0	20	mg/kg	10.08.17 17:59	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
4-Bromofluorobenzene	100		99		99		68-120			%	10.08.17 17:59	
a,a,a-Trifluorotoluene	98		95		96		71-121			%	10.08.17 17:59	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991
MB Sample Id: 7632293-1-BLK

Matrix: Solid
LCS Sample Id: 7632293-1-BKS

Prep Method: SW5030B
Date Prep: 10.06.17
LCSD Sample Id: 7632293-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.09	105	2.13	107	55-120	2	20	mg/kg	10.09.17 14:23	
Toluene	<0.0200	2.00	2.11	106	2.15	108	77-120	2	20	mg/kg	10.09.17 14:23	
Ethylbenzene	<0.0200	2.00	2.07	104	2.15	108	77-120	4	20	mg/kg	10.09.17 14:23	
Xylenes, Total	0	6	6.21	104	6.44	107	71-133	0	20	mg/kg	10.09.17 14:23	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
4-Bromofluorobenzene	107		102		103		68-120			%	10.09.17 14:23	
a,a,a-Trifluorotoluene	104		96		100		71-121			%	10.09.17 14:23	



QC Summary 564897

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0197	1.97	1.87	95	1.77	95	54-120	5	25	mg/kg	10.08.17 21:36	
Toluene	<0.0197	1.97	2.01	102	1.92	103	57-120	5	25	mg/kg	10.08.17 21:36	
Ethylbenzene	<0.0197	1.97	2.08	106	1.99	107	58-131	4	25	mg/kg	10.08.17 21:36	
Xylenes, Total	0	5.91	6.23	105	5.98	107	71-133	0	20	mg/kg	10.08.17 21:36	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		102		68-120	%	10.08.17 21:36
a,a,a-Trifluorotoluene	105		104		71-121	%	10.08.17 21:36

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0195	1.95	2.08	107	2.07	107	54-120	0	25	mg/kg	10.09.17 18:00	
Toluene	<0.0195	1.95	2.25	115	2.26	117	57-120	0	25	mg/kg	10.09.17 18:00	
Ethylbenzene	<0.0195	1.95	2.32	119	2.01	104	58-131	14	25	mg/kg	10.09.17 18:00	
Xylenes, Total	0	5.85	6.94	119	6.66	115	71-133	0	20	mg/kg	10.09.17 18:00	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		110		68-120	%	10.09.17 18:00
a,a,a-Trifluorotoluene	109		111		71-121	%	10.09.17 18:00

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

MB Sample Id: 7632209-1-BLK

Matrix: Solid

LCS Sample Id: 7632209-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632209-1-BSL

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	15.4	77	16.5	83	35-129	7	20	mg/kg	10.08.17 18:53	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	94		82		83		76-123	%	10.08.17 18:53
a,a,a-Trifluorotoluene	104		88		89		69-120	%	10.08.17 18:53

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

MB Sample Id: 7632294-1-BLK

Matrix: Solid

LCS Sample Id: 7632294-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632294-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	20.7	104	20.1	101	35-129	3	20	mg/kg	10.09.17 15:17	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	110		114		97		76-123	%	10.09.17 15:17			
a,a,a-Trifluorotoluene	116		108		96		69-120	%	10.09.17 15:17			

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.45	17.2	13.5	78	15.5	80	35-129	14	20	mg/kg	10.08.17 22:29	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene			89		99		76-123	%	10.08.17 22:29			
a,a,a-Trifluorotoluene			83		95		69-120	%	10.08.17 22:29			

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.85	19.3	16.6	86	14.9	78	35-129	11	20	mg/kg	10.09.17 18:55	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene			105		121		76-123	%	10.09.17 18:55			
a,a,a-Trifluorotoluene			100		107		69-120	%	10.09.17 18:55			



San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

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Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: TRC Environmental Corporation				Project Name/Number: OWI 20504 JV-P #005 SWD											
Company Address: 2057 Commerce Drive Midland, TX 79703				Project Location: Eddy Co, NM											
Email: jlowry@trcsolutions.com				Phone No: 432-466-4450											
Project Contact: Joel Lowry				Invoice To: COG Operating C/O Becky Haskell											
Samplers Name Joel Lowry				Invoice:											

No.	Field ID / Point of Collection	Collection		Number of preserved bottles										Field Comments						
		Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn	HNO3	H2SO4	NaOH	NaHSO4	MEOH		NONE					
1	TT-7 @ Surf.	Surf	10/3/2017		S	1														
2	TT-7 @ 1'	1	10/3/2017		S	1														
3	TT-7 @ 2'	2	10/3/2017		S	1														
4	TT-7 @ 3'	3	10/3/2017		S	1														
5	TT-7 @ 4'-G	4	10/3/2017		S	1														
6																				
7																				

Turnaround Time (Business days)		Data Deliverable Information		Notes:	
☐ Same Day TAT	☐ 5 Day TAT	☐ Level II Std QC	☐ Level IV (Full Data Pkg /raw data)	jlowry@trcsolutions.com	
☐ Next Day EMERGENCY	☐ 7 Day TAT	☐ Level III Std QC+ Forms	☐ TRRP Level IV	rhaskell@concho.com	
☐ 2 Day EMERGENCY	☒ Contract TAT	☐ Level 3 (CLP Forms)	☐ UST / RG -411	sdstanley@trcsolutions.com	
☐ 3 Day EMERGENCY		☐ TRRP Checklist			

TAT Starts Day received by Lab, if received by 5:00 pm			
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY			
Relinquished by Sampler:	Date Time:	Received By:	Date Time:
<i>[Signature]</i>	10/15 5:00	<i>[Signature]</i>	
Relinquished by:	Date Time:	Relinquished By:	Date Time:
Relinquished by:	Date Time:	Relinquished By:	Date Time:

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>		10/15 5:00		<i>[Signature]</i>			

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>		10/15 5:00		<i>[Signature]</i>			

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>		10/15 5:00		<i>[Signature]</i>			

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>		10/15 5:00		<i>[Signature]</i>			

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>		10/15 5:00		<i>[Signature]</i>			

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>		10/15 5:00		<i>[Signature]</i>			

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>		10/15 5:00		<i>[Signature]</i>			

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>		10/15 5:00		<i>[Signature]</i>			

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>		10/15 5:00		<i>[Signature]</i>			

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>		10/15 5:00		<i>[Signature]</i>			

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>		10/15 5:00		<i>[Signature]</i>			

Relinquished by:		Date Time:		Relinquished By:		Date Time:	
<i>[Signature]</i>							



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2017 05:00:00 PM

Work Order #: 564897

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564899

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy, Co. NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 18-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	564899-001	564899-002	564899-003	564899-004	564899-005	564899-006
	<i>Field Id:</i>	TT-8 @ Surf.	TT-8 @ 1'	TT-8 @ 2'	TT-8 @ 3'	TT-8 @ 4'	TT-8 @ 6'-G
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00				Oct-06-17 14:00
	<i>Analyzed:</i>	Oct-09-17 07:04	Oct-09-17 07:31				Oct-09-17 07:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				mg/kg RL
Benzene		<0.0198 0.0198	<0.0194 0.0194				<0.0186 0.0186
Toluene		<0.0198 0.0198	<0.0194 0.0194				<0.0186 0.0186
Ethylbenzene		<0.0198 0.0198	<0.0194 0.0194				<0.0186 0.0186
Xylenes, Total		<0.0198 0.0198	<0.0194 0.0194				<0.0186 0.0186
Total BTEX		<0.0198 0.0198	<0.0194 0.0194				<0.0186 0.0186
Chloride by EPA 300	<i>Extracted:</i>	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	Oct-16-17 09:00	Oct-17-17 08:30
	<i>Analyzed:</i>	Oct-17-17 00:14	Oct-17-17 12:25	Oct-17-17 13:15	Oct-17-17 13:40	Oct-17-17 14:05	Oct-17-17 16:23
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<125 125	265 125	255 125	<125 125	<125 125	<125 125
DRO-ORO By SW8015B	<i>Extracted:</i>	Oct-06-17 14:30	Oct-06-17 14:30				Oct-06-17 14:30
	<i>Analyzed:</i>	Oct-08-17 13:46	Oct-08-17 15:36				Oct-08-17 16:13
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				mg/kg RL
Diesel Range Organics (DRO)		41.0 25.0	<25.0 25.0				<25.0 25.0
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0				<25.0 25.0
TPH GRO by EPA 8015 Mod.	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00				Oct-06-17 14:00
	<i>Analyzed:</i>	Oct-09-17 07:04	Oct-09-17 07:31				Oct-09-17 07:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				mg/kg RL
TPH-GRO		<3.95 3.95	<3.88 3.88				<3.71 3.71

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564899

**for
TRC Solutions, Inc**

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

18-OCT-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



18-OCT-17

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

Reference: XENCO Report No(s): **564899**
Owl 20504 JV-P #005 SWD
Project Address: Eddy, 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) 564899. 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. 564899 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564899

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-8 @ Surf.	S	10-03-17 00:00		564899-001
TT-8 @ 1'	S	10-03-17 00:00		564899-002
TT-8 @ 2'	S	10-03-17 00:00		564899-003
TT-8 @ 3'	S	10-03-17 00:00		564899-004
TT-8 @ 4'	S	10-03-17 00:00		564899-005
TT-8 @ 6'-G	S	10-03-17 00:00		564899-006



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:
Work Order Number(s): 564899

Report Date: 18-OCT-17
Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029875 BTEX by EPA 8021B

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

Batch: LBA-3029956 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564899-001 S, 564899-001 SD, 564899-001.

Batch: LBA-3030660 Chloride by EPA 300

Lab Sample ID 564899-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564899-002, -003, -004, -005.

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



Certificate of Analytical Results 564899

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-8 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564899-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030603

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.17.17 00.14	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	41.0	25.0	mg/kg	10.08.17 13.46		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 13.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	159	%	65-144	10.08.17 13.46	**
n-Triacontane	638-68-6	128	%	46-152	10.08.17 13.46	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0198	0.0198	mg/kg	10.09.17 07.04	U	1
Toluene	108-88-3	<0.0198	0.0198	mg/kg	10.09.17 07.04	U	1
Ethylbenzene	100-41-4	<0.0198	0.0198	mg/kg	10.09.17 07.04	U	1
Xylenes, Total	1330-20-7	<0.0198	0.0198	mg/kg	10.09.17 07.04	U	1
Total BTEX		<0.0198	0.0198	mg/kg	10.09.17 07.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	68-120	10.09.17 07.04	
a,a,a-Trifluorotoluene	98-08-8	107	%	71-121	10.09.17 07.04	



Certificate of Analytical Results 564899

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-8 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564899-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.95	3.95	mg/kg	10.09.17 07.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	76-123	10.09.17 07.04		
a,a,a-Trifluorotoluene	98-08-8	103	%	69-120	10.09.17 07.04		



Certificate of Analytical Results 564899

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-8 @ 1'**
Lab Sample Id: 564899-002

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030660

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.16.17 09.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	265	125	mg/kg	10.17.17 12.25		5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029956

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 10.06.17 14.30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 15.36	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 15.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	115	%	65-144	10.08.17 15.36	
n-Triacontane	638-68-6	102	%	46-152	10.08.17 15.36	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029875

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Date Prep: 10.06.17 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0194	0.0194	mg/kg	10.09.17 07.31	U	1
Toluene	108-88-3	<0.0194	0.0194	mg/kg	10.09.17 07.31	U	1
Ethylbenzene	100-41-4	<0.0194	0.0194	mg/kg	10.09.17 07.31	U	1
Xylenes, Total	1330-20-7	<0.0194	0.0194	mg/kg	10.09.17 07.31	U	1
Total BTEX		<0.0194	0.0194	mg/kg	10.09.17 07.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	68-120	10.09.17 07.31	
a,a,a-Trifluorotoluene	98-08-8	91	%	71-121	10.09.17 07.31	



Certificate of Analytical Results 564899

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-8 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564899-002

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.88	3.88	mg/kg	10.09.17 07.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	81	%	76-123	10.09.17 07.31		
a,a,a-Trifluorotoluene	98-08-8	87	%	69-120	10.09.17 07.31		



Certificate of Analytical Results 564899

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-8 @ 2'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564899-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030660

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	255	125	mg/kg	10.17.17 13.15		5



Certificate of Analytical Results 564899

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-8 @ 3'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564899-004

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030660

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.17.17 13.40	U	5



Certificate of Analytical Results 564899

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-8 @ 4'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564899-005

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 09.00

Basis: Wet Weight

Seq Number: 3030660

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.17.17 14.05	U	5



Certificate of Analytical Results 564899

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-8 @ 6'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564899-006

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030718

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.17.17 16.23	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 16.13	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 16.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	116	%	65-144	10.08.17 16.13	
n-Triacontane	638-68-6	101	%	46-152	10.08.17 16.13	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0186	0.0186	mg/kg	10.09.17 07.58	U	1
Toluene	108-88-3	<0.0186	0.0186	mg/kg	10.09.17 07.58	U	1
Ethylbenzene	100-41-4	<0.0186	0.0186	mg/kg	10.09.17 07.58	U	1
Xylenes, Total	1330-20-7	<0.0186	0.0186	mg/kg	10.09.17 07.58	U	1
Total BTEX		<0.0186	0.0186	mg/kg	10.09.17 07.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	68-120	10.09.17 07.58	
a,a,a-Trifluorotoluene	98-08-8	104	%	71-121	10.09.17 07.58	



Certificate of Analytical Results 564899

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-8 @ 6'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564899-006

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.71	3.71	mg/kg	10.09.17 07.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	76-123	10.09.17 07.58		
a,a,a-Trifluorotoluene	98-08-8	98	%	69-120	10.09.17 07.58		

- 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

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(432) 563-1800	(432) 563-1713
(602) 437-0330	

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD**Analytical Method: Chloride by EPA 300**

Seq Number: 3030603

MB Sample Id: 7632704-1-BLK

Matrix: Solid

LCS Sample Id: 7632704-1-BKS

Prep Method: E300P

Date Prep: 10.16.17

LCSD Sample Id: 7632704-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	239	96	234	94	90-110	2	20	mg/kg	10.16.17 21:45	

Analytical Method: Chloride by EPA 300

Seq Number: 3030660

MB Sample Id: 7632766-1-BLK

Matrix: Solid

LCS Sample Id: 7632766-1-BKS

Prep Method: E300P

Date Prep: 10.16.17

LCSD Sample Id: 7632766-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	240	96	238	95	90-110	1	20	mg/kg	10.17.17 12:01	

Analytical Method: Chloride by EPA 300

Seq Number: 3030718

MB Sample Id: 7632789-1-BLK

Matrix: Solid

LCS Sample Id: 7632789-1-BKS

Prep Method: E300P

Date Prep: 10.17.17

LCSD Sample Id: 7632789-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	243	97	239	96	90-110	2	20	mg/kg	10.17.17 15:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3030603

Parent Sample Id: 564897-004

Matrix: Soil

MS Sample Id: 564897-004 S

Prep Method: E300P

Date Prep: 10.16.17

MSD Sample Id: 564897-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.16.17 23:24	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030660

Parent Sample Id: 564899-002

Matrix: Soil

MS Sample Id: 564899-002 S

Prep Method: E300P

Date Prep: 10.16.17

MSD Sample Id: 564899-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 12:50	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030718

Parent Sample Id: 564900-001

Matrix: Soil

MS Sample Id: 564900-001 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564900-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 17:12	X

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD**Analytical Method: Chloride by EPA 300**

Seq Number: 3030718

Parent Sample Id: 564906-002

Matrix: Soil

MS Sample Id: 564906-002 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564906-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 19:29	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

MB Sample Id: 7632254-1-BLK

Matrix: Solid

LCS Sample Id: 7632254-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632254-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	111	111	114	114	63-139	3	20	mg/kg	10.08.17 12:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	110		120		123		65-144	%	10.08.17 12:34
n-Triacontane	98		97		101		46-152	%	10.08.17 12:34

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

Parent Sample Id: 564899-001

Matrix: Soil

MS Sample Id: 564899-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564899-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	41.0	100	156	115	158	117	63-139	1	20	mg/kg	10.08.17 14:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	168	**	170	**	65-144	%	10.08.17 14:22
n-Triacontane	126		132		46-152	%	10.08.17 14:22

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

MB Sample Id: 7632206-1-BLK

Matrix: Solid

LCS Sample Id: 7632206-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632206-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.01	101	2.00	100	55-120	0	20	mg/kg	10.08.17 17:59	
Toluene	<0.0200	2.00	2.01	101	2.02	101	77-120	0	20	mg/kg	10.08.17 17:59	
Ethylbenzene	<0.0200	2.00	1.96	98	2.00	100	77-120	2	20	mg/kg	10.08.17 17:59	
Xylenes, Total	0	6	5.87	98	5.97	100	71-133	0	20	mg/kg	10.08.17 17:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		99		99		68-120	%	10.08.17 17:59
a,a,a-Trifluorotoluene	98		95		96		71-121	%	10.08.17 17:59

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0197	1.97	1.87	95	1.77	95	54-120	5	25	mg/kg	10.08.17 21:36	
Toluene	<0.0197	1.97	2.01	102	1.92	103	57-120	5	25	mg/kg	10.08.17 21:36	
Ethylbenzene	<0.0197	1.97	2.08	106	1.99	107	58-131	4	25	mg/kg	10.08.17 21:36	
Xylenes, Total	0	5.91	6.23	105	5.98	107	71-133	0	20	mg/kg	10.08.17 21:36	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		102		68-120	%	10.08.17 21:36
a,a,a-Trifluorotoluene	105		104		71-121	%	10.08.17 21:36

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

MB Sample Id: 7632209-1-BLK

Matrix: Solid

LCS Sample Id: 7632209-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632209-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	15.4	77	16.5	83	35-129	7	20	mg/kg	10.08.17 18:53	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	94		82		83		76-123	%	10.08.17 18:53
a,a,a-Trifluorotoluene	104		88		89		69-120	%	10.08.17 18:53

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.45	17.2	13.5	78	15.5	80	35-129	14	20	mg/kg	10.08.17 22:29	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	89		99		76-123	%	10.08.17 22:29
a,a,a-Trifluorotoluene	83		95		69-120	%	10.08.17 22:29



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CHAIN OF CUSTODY

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564899

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Xenco Quote #

Xenco Job #

564899

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: TRC Environmental Corporation				Project Name/Number: Owl 20504 JV-P #005 SWD											
Company Address: 2057 Commerce Drive Midland, TX 79703				Project Location: Eddy Co, NM											
Email: jlowry@trcsolutions.com				Phone No: 432-466-4450											
Project Contact: Joel Lowry				Invoice To: COG Operating C/O Becky Haskell											
Sampler's Name: Joel Lowry				Invoice:											
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles				Field Comments				
1	TT-8 @ Surf.	Surf	10/3/2017		S	1	HCl	NaOH/Zn	HNO3	H2SO4	NaOH	MeOH	NONE		
2	TT-8 @ 1'	1	10/3/2017		S	1								1	
3	TT-8 @ 2'	2	10/3/2017		S	1								2	
4	TT-8 @ 3'	3	10/3/2017		S	1								3	
5	TT-8 @ 4'	4	10/3/2017		S	1								4	
6	TT-8 @ 6'-G	6	10/3/2017		S	1								5	
7														6	
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															
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY															
Relinquished by Sampler:															
1. <i>Joel Lowry</i> Date Time: 10/5/17															
Relinquished by:															
3. Date Time:															
Relinquished by:															
5. Date Time:															
Received By: 1. <i>Joel Lowry</i> Date Time: 10/5/17															
Relinquished By: 2. Date Time:															
Received By: 3. Date Time:															
Relinquished By: 4. Date Time:															
Received By: 5. Date Time:															
Preserved where applicable															
Custody Seal #															
On Ice															
Cooling Temp															
Thermo. Cor. Factor															

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 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: 10/05/2017 05:00:00 PM

Work Order #: 564899

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564900

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co, NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 18-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564900-001	564900-002	564900-003			
	Field Id:	TT-9 Surf.	TT-9 1'	TT-9 2'-G			
	Depth:						
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00			
BTEX by EPA 8021B	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00			
	Analyzed:	Oct-09-17 08:25	Oct-09-17 08:52	Oct-09-17 09:18			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.0185 0.0185	<0.0181 0.0181	<0.0192 0.0192			
Toluene		<0.0185 0.0185	<0.0181 0.0181	<0.0192 0.0192			
Ethylbenzene		<0.0185 0.0185	<0.0181 0.0181	<0.0192 0.0192			
Xylenes, Total		<0.0185 0.0185	<0.0181 0.0181	<0.0192 0.0192			
Total BTEX		<0.0185 0.0185	<0.0181 0.0181	<0.0192 0.0192			
Chloride by EPA 300	Extracted:	Oct-17-17 08:30	Oct-17-17 08:30	Oct-17-17 08:30			
	Analyzed:	Oct-17-17 16:48	Oct-17-17 17:37	Oct-17-17 18:02			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		<125 125	257 125	202 125			
DRO-ORO By SW8015B	Extracted:	Oct-06-17 14:30	Oct-06-17 14:30	Oct-06-17 14:30			
	Analyzed:	Oct-08-17 16:49	Oct-08-17 17:26	Oct-08-17 18:04			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0			
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0	<25.0 25.0			
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00			
	Analyzed:	Oct-09-17 08:25	Oct-09-17 08:52	Oct-09-17 09:18			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
TPH-GRO		<3.70 3.70	<3.62 3.62	<3.83 3.83			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564900

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

18-OCT-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab code: TX00122):
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Oklahoma (9218)

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



18-OCT-17

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

Reference: XENCO Report No(s): **564900**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564900. 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. 564900 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564900

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-9 Surf.	S	10-03-17 00:00		564900-001
TT-9 1'	S	10-03-17 00:00		564900-002
TT-9 2'-G	S	10-03-17 00:00		564900-003



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:
Work Order Number(s): 564900

Report Date: 18-OCT-17
Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029875 BTEX by EPA 8021B

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

Batch: LBA-3029956 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564899-001 S, 564899-001 SD.

Batch: LBA-3030718 Chloride by EPA 300

Lab Sample ID 564906-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564900-001, -002, -003.

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



Certificate of Analytical Results 564900

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-9 Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564900-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030718

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.17.17 16.48	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 16.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 16.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	124	%	65-144	10.08.17 16.49	
n-Triacontane	638-68-6	110	%	46-152	10.08.17 16.49	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0185	0.0185	mg/kg	10.09.17 08.25	U	1
Toluene	108-88-3	<0.0185	0.0185	mg/kg	10.09.17 08.25	U	1
Ethylbenzene	100-41-4	<0.0185	0.0185	mg/kg	10.09.17 08.25	U	1
Xylenes, Total	1330-20-7	<0.0185	0.0185	mg/kg	10.09.17 08.25	U	1
Total BTEX		<0.0185	0.0185	mg/kg	10.09.17 08.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	68-120	10.09.17 08.25	
a,a,a-Trifluorotoluene	98-08-8	106	%	71-121	10.09.17 08.25	



Certificate of Analytical Results 564900

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-9 Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564900-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.70	3.70	mg/kg	10.09.17 08.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	76-123	10.09.17 08.25		
a,a,a-Trifluorotoluene	98-08-8	100	%	69-120	10.09.17 08.25		



Certificate of Analytical Results 564900

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-9 1'**
Lab Sample Id: 564900-002

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030718

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 10.17.17 08.30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	257	125	mg/kg	10.17.17 17.37		5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029956

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Date Prep: 10.06.17 14.30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 17.26	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 17.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	118	%	65-144	10.08.17 17.26	
n-Triacontane	638-68-6	108	%	46-152	10.08.17 17.26	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029875

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Date Prep: 10.06.17 14.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0181	0.0181	mg/kg	10.09.17 08.52	U	1
Toluene	108-88-3	<0.0181	0.0181	mg/kg	10.09.17 08.52	U	1
Ethylbenzene	100-41-4	<0.0181	0.0181	mg/kg	10.09.17 08.52	U	1
Xylenes, Total	1330-20-7	<0.0181	0.0181	mg/kg	10.09.17 08.52	U	1
Total BTEX		<0.0181	0.0181	mg/kg	10.09.17 08.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	68-120	10.09.17 08.52	
a,a,a-Trifluorotoluene	98-08-8	106	%	71-121	10.09.17 08.52	



Certificate of Analytical Results 564900

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-9 1'**
Lab Sample Id: 564900-002

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.62	3.62	mg/kg	10.09.17 08.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	76-123	10.09.17 08.52		
a,a,a-Trifluorotoluene	98-08-8	102	%	69-120	10.09.17 08.52		



Certificate of Analytical Results 564900

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-9 2'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564900-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030718

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	202	125	mg/kg	10.17.17 18.02		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 18.04	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 18.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	100	%	65-144	10.08.17 18.04	
n-Triacontane	638-68-6	87	%	46-152	10.08.17 18.04	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029875

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	10.09.17 09.18	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	10.09.17 09.18	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	10.09.17 09.18	U	1
Xylenes, Total	1330-20-7	<0.0192	0.0192	mg/kg	10.09.17 09.18	U	1
Total BTEX		<0.0192	0.0192	mg/kg	10.09.17 09.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	68-120	10.09.17 09.18	
a,a,a-Trifluorotoluene	98-08-8	97	%	71-121	10.09.17 09.18	



Certificate of Analytical Results 564900

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-9 2'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564900-003

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029916

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.83	3.83	mg/kg	10.09.17 09.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	76-123	10.09.17 09.18		
a,a,a-Trifluorotoluene	98-08-8	101	%	69-120	10.09.17 09.18		

- 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

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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



QC Summary 564900

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030718

MB Sample Id: 7632789-1-BLK

Matrix: Solid

LCS Sample Id: 7632789-1-BKS

Prep Method: E300P

Date Prep: 10.17.17

LCSD Sample Id: 7632789-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	243	97	239	96	90-110	2	20	mg/kg	10.17.17 15:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3030718

Parent Sample Id: 564900-001

Matrix: Soil

MS Sample Id: 564900-001 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564900-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 17:12	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030718

Parent Sample Id: 564906-002

Matrix: Soil

MS Sample Id: 564906-002 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564906-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 19:29	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

MB Sample Id: 7632254-1-BLK

Matrix: Solid

LCS Sample Id: 7632254-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632254-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	111	111	114	114	63-139	3	20	mg/kg	10.08.17 12:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	110		120		123		65-144	%	10.08.17 12:34
n-Triacontane	98		97		101		46-152	%	10.08.17 12:34

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

Parent Sample Id: 564899-001

Matrix: Soil

MS Sample Id: 564899-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564899-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	41.0	100	156	115	158	117	63-139	1	20	mg/kg	10.08.17 14:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	168	**	170	**	65-144	%	10.08.17 14:22
n-Triacontane	126		132		46-152	%	10.08.17 14:22



QC Summary 564900

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

MB Sample Id: 7632206-1-BLK

Matrix: Solid

LCS Sample Id: 7632206-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632206-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.01	101	2.00	100	55-120	0	20	mg/kg	10.08.17 17:59	
Toluene	<0.0200	2.00	2.01	101	2.02	101	77-120	0	20	mg/kg	10.08.17 17:59	
Ethylbenzene	<0.0200	2.00	1.96	98	2.00	100	77-120	2	20	mg/kg	10.08.17 17:59	
Xylenes, Total	0	6	5.87	98	5.97	100	71-133	0	20	mg/kg	10.08.17 17:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		99		99		68-120	%	10.08.17 17:59
a,a,a-Trifluorotoluene	98		95		96		71-121	%	10.08.17 17:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029875

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0197	1.97	1.87	95	1.77	95	54-120	5	25	mg/kg	10.08.17 21:36	
Toluene	<0.0197	1.97	2.01	102	1.92	103	57-120	5	25	mg/kg	10.08.17 21:36	
Ethylbenzene	<0.0197	1.97	2.08	106	1.99	107	58-131	4	25	mg/kg	10.08.17 21:36	
Xylenes, Total	0	5.91	6.23	105	5.98	107	71-133	0	20	mg/kg	10.08.17 21:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		102		68-120	%	10.08.17 21:36
a,a,a-Trifluorotoluene	105		104		71-121	%	10.08.17 21:36

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

MB Sample Id: 7632209-1-BLK

Matrix: Solid

LCS Sample Id: 7632209-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632209-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	15.4	77	16.5	83	35-129	7	20	mg/kg	10.08.17 18:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	94		82		83		76-123	%	10.08.17 18:53
a,a,a-Trifluorotoluene	104		88		89		69-120	%	10.08.17 18:53



QC Summary 564900

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3029916

Parent Sample Id: 564855-001

Matrix: Soil

MS Sample Id: 564855-001 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564855-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.45	17.2	13.5	78	15.5	80	35-129	14	20	mg/kg	10.08.17 22:29	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	89		99		76-123	%	10.08.17 22:29
a,a,a-Trifluorotoluene	83		95		69-120	%	10.08.17 22:29



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Page 1 Of 1

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Client / Reporting Information				Project Information				Analytical Information				Matrix Codes				
Company Name / Branch: TRC Environmental Corporation				Project Name/Number: Owl 20504 JV-P #005 SWD				Xenco Quote # 564900				Xenco Job # 564900				
Company Address: 2057 Commerce Drive Midland, TX 79703				Project Location: Eddy Co, NM												
Email: jlowry@trcsolutions.com				Invoice To: COG Operating C/O Becky Haskell												
Phone No: 432-466-4450				Invoice:												
Project Contact: Joel Lowry																
Sampler's Name Joel Lowry																
No.	Field ID / Point of Collection	Sample Depth	Collection	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn	HNO3	H2SO4	NaOH	NaHSO4	MeOH	NONE	Field Comments
1	TT-9 @ Surf.	Surf		10/3/2017		S	1									TPH 8015 M EX Chloride F 300 BTX 8021B
2	TT-9 @ 1'	1		10/3/2017		S	1									
3	TT-9 @ 2'-G	2		10/3/2017		S	1									
4																
5																
6																
7																

Turnaround Time (Business days)				Data Deliverable Information				Notes:			
☐ 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					jlowry@trcsolutions.com			
☐ 2 Day EMERGENCY	☒ Contract TAT	☐ Level 3 (CLP Forms)	☐ UST / RG -411					rhaskell@concho.com			
☐ 3 Day EMERGENCY		☐ TRRP Checklist						sdstanley@trcsolutions.com			

TAT Starts Day received by Lab, if received by 5:00 pm				FED-EX / UPS: Tracking #			
Relinquished by Sampler:	Date Time:	Relinquished By:	Date Time:				
1. <i>Joel Lowry</i>	10/5 5:00	1. <i>Joel Lowry</i>	10/5 5:00				
Relinquished by:	Date Time:	Relinquished By:	Date Time:				
3. <i>Joel Lowry</i>		3. <i>Joel Lowry</i>					
Relinquished by:	Date Time:	Relinquished By:	Date Time:				
5. <i>Joel Lowry</i>		5. <i>Joel Lowry</i>					

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY			
Relinquished by:	Date Time:	Relinquished By:	Date Time:
1. <i>Joel Lowry</i>	10/5 5:00	1. <i>Joel Lowry</i>	10/5 5:00
Relinquished by:	Date Time:	Relinquished By:	Date Time:
3. <i>Joel Lowry</i>		3. <i>Joel Lowry</i>	
Relinquished by:	Date Time:	Relinquished By:	Date Time:
5. <i>Joel Lowry</i>		5. <i>Joel Lowry</i>	

On Ice				Cooler Temp			
Relinquished by:	Date Time:	Relinquished By:	Date Time:				
1. <i>Joel Lowry</i>		1. <i>Joel Lowry</i>					
Relinquished by:	Date Time:	Relinquished By:	Date Time:				
3. <i>Joel Lowry</i>		3. <i>Joel Lowry</i>					
Relinquished by:	Date Time:	Relinquished By:	Date Time:				
5. <i>Joel Lowry</i>		5. <i>Joel Lowry</i>					

Notice: Notice 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: 10/05/2017 05:00:00 PM

Work Order #: 564900

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564902

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 19-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564902-001	564902-002	564902-003	564902-004		
	Field Id:	TT-10 @ Surf.	TT-10 @ 1'	TT-10 @ 2'	TT-10 @ 3'-G		
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00		
BTEX by EPA 8021B	Extracted:	Oct-06-17 16:00	Oct-06-17 16:00		Oct-06-17 16:00		
	Analyzed:	Oct-10-17 17:52	Oct-10-17 18:19		Oct-10-17 18:46		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
Benzene		<0.0196 0.0196	<0.0199 0.0199		<0.0185 0.0185		
Toluene		<0.0196 0.0196	<0.0199 0.0199		<0.0185 0.0185		
Ethylbenzene		<0.0196 0.0196	<0.0199 0.0199		<0.0185 0.0185		
Xylenes, Total		<0.0196 0.0196	<0.0199 0.0199		<0.0185 0.0185		
Total BTEX		<0.0196 0.0196	<0.0199 0.0199		<0.0185 0.0185		
Chloride by EPA 300	Extracted:	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00		
	Analyzed:	Oct-18-17 20:18	Oct-18-17 19:16	Oct-18-17 19:41	Oct-18-17 21:08		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		<125 125	1760 125	403 125	375 125		
DRO-ORO By SW8015B	Extracted:	Oct-06-17 14:30	Oct-06-17 14:30		Oct-06-17 14:30		
	Analyzed:	Oct-08-17 18:41	Oct-08-17 19:18		Oct-08-17 19:55		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0		<25.0 25.0		
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0		<25.0 25.0		
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-06-17 16:00	Oct-06-17 16:00		Oct-06-17 16:00		
	Analyzed:	Oct-10-17 17:52	Oct-10-17 18:19		Oct-10-17 18:46		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
TPH-GRO		<3.91 3.91	<3.98 3.98		<3.70 3.70		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564902

for

TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

19-OCT-17

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)



19-OCT-17

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

Reference: XENCO Report No(s): **564902**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564902. 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. 564902 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564902

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-10 @ Surf.	S	10-03-17 00:00		564902-001
TT-10 @ 1'	S	10-03-17 00:00		564902-002
TT-10 @ 2'	S	10-03-17 00:00		564902-003
TT-10 @ 3'-G	S	10-03-17 00:00		564902-004



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:
Work Order Number(s): 564902

Report Date: 19-OCT-17
Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029956 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564899-001 S, 564899-001 SD.

Batch: LBA-3030076 BTEX by EPA 8021B

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

Batch: LBA-3030810 Chloride by EPA 300

Lab Sample ID 564935-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564902-001, -002, -003, -004.

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



Certificate of Analytical Results 564902

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-10 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564902-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Seq Number: 3030810

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 20.18	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 18.41	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 18.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	125	%	65-144	10.08.17 18.41	
n-Triacontane	638-68-6	111	%	46-152	10.08.17 18.41	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030076

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	10.10.17 17.52	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	10.10.17 17.52	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	10.10.17 17.52	U	1
Xylenes, Total	1330-20-7	<0.0196	0.0196	mg/kg	10.10.17 17.52	U	1
Total BTEX		<0.0196	0.0196	mg/kg	10.10.17 17.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.10.17 17.52	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	10.10.17 17.52	



Certificate of Analytical Results 564902

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-10 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564902-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.91	3.91	mg/kg	10.10.17 17.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	10.10.17 17.52		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.10.17 17.52		



Certificate of Analytical Results 564902

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-10 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564902-002

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Seq Number: 3030810

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1760	125	mg/kg	10.18.17 19.16		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 19.18	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 19.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	116	%	65-144	10.08.17 19.18	
n-Triacontane	638-68-6	102	%	46-152	10.08.17 19.18	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030076

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	10.10.17 18.19	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	10.10.17 18.19	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	10.10.17 18.19	U	1
Xylenes, Total	1330-20-7	<0.0199	0.0199	mg/kg	10.10.17 18.19	U	1
Total BTEX		<0.0199	0.0199	mg/kg	10.10.17 18.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.10.17 18.19	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 18.19	



Certificate of Analytical Results 564902

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-10 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564902-002

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.98	3.98	mg/kg	10.10.17 18.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	76-123	10.10.17 18.19		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.10.17 18.19		



Certificate of Analytical Results 564902

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-10 @ 2'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564902-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Seq Number: 3030810

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	403	125	mg/kg	10.18.17 19.41		5



Certificate of Analytical Results 564902

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-10 @ 3'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564902-004

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Seq Number: 3030810

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	375	125	mg/kg	10.18.17 21.08		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 19.55	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 19.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	120	%	65-144	10.08.17 19.55	
n-Triacontane	638-68-6	99	%	46-152	10.08.17 19.55	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030076

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0185	0.0185	mg/kg	10.10.17 18.46	U	1
Toluene	108-88-3	<0.0185	0.0185	mg/kg	10.10.17 18.46	U	1
Ethylbenzene	100-41-4	<0.0185	0.0185	mg/kg	10.10.17 18.46	U	1
Xylenes, Total	1330-20-7	<0.0185	0.0185	mg/kg	10.10.17 18.46	U	1
Total BTEX		<0.0185	0.0185	mg/kg	10.10.17 18.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.10.17 18.46	
a,a,a-Trifluorotoluene	98-08-8	114	%	71-121	10.10.17 18.46	



Certificate of Analytical Results 564902

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-10 @ 3'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564902-004

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.70	3.70	mg/kg	10.10.17 18.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	76-123	10.10.17 18.46		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.10.17 18.46		

- 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

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(432) 563-1800	(432) 563-1713
(602) 437-0330	



QC Summary 564902

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030810

MB Sample Id: 7632845-1-BLK

Matrix: Solid

LCS Sample Id: 7632845-1-BKS

Prep Method: E300P

Date Prep: 10.17.17

LCSD Sample Id: 7632845-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	254	102	243	97	90-110	4	20	mg/kg	10.18.17 17:12	

Analytical Method: Chloride by EPA 300

Seq Number: 3030810

Parent Sample Id: 564902-001

Matrix: Soil

MS Sample Id: 564902-001 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564902-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.18.17 20:43	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030810

Parent Sample Id: 564935-003

Matrix: Soil

MS Sample Id: 564935-003 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564935-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.18.17 18:02	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

MB Sample Id: 7632254-1-BLK

Matrix: Solid

LCS Sample Id: 7632254-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632254-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	111	111	114	114	63-139	3	20	mg/kg	10.08.17 12:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	110		120		123		65-144	%	10.08.17 12:34
n-Triacontane	98		97		101		46-152	%	10.08.17 12:34

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

Parent Sample Id: 564899-001

Matrix: Soil

MS Sample Id: 564899-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564899-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	41.0	100	156	115	158	117	63-139	1	20	mg/kg	10.08.17 14:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	168	**	170	**	65-144	%	10.08.17 14:22
n-Triacontane	126		132		46-152	%	10.08.17 14:22



QC Summary 564902

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030076

MB Sample Id: 7632336-1-BLK

Matrix: Solid

LCS Sample Id: 7632336-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632336-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.12	106	2.12	106	55-120	0	20	mg/kg	10.10.17 10:09	
Toluene	<0.0200	2.00	2.11	106	2.12	106	77-120	0	20	mg/kg	10.10.17 10:09	
Ethylbenzene	<0.0200	2.00	2.08	104	2.11	106	77-120	1	20	mg/kg	10.10.17 10:09	
Xylenes, Total	0	6	6.22	104	6.32	105	71-133	0	20	mg/kg	10.10.17 10:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	103		100		101		68-120	%	10.10.17 10:09
a,a,a-Trifluorotoluene	100		94		98		71-121	%	10.10.17 10:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030076

Parent Sample Id: 564935-005

Matrix: Soil

MS Sample Id: 564935-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564935-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0196	1.96	1.90	97	1.84	96	54-120	3	25	mg/kg	10.10.17 13:48	
Toluene	<0.0196	1.96	2.05	105	1.98	103	57-120	3	25	mg/kg	10.10.17 13:48	
Ethylbenzene	<0.0196	1.96	2.10	107	2.05	107	58-131	2	25	mg/kg	10.10.17 13:48	
Xylenes, Total	0	5.89	6.27	106	6.15	107	71-133	0	20	mg/kg	10.10.17 13:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		106		68-120	%	10.10.17 13:48
a,a,a-Trifluorotoluene	109		109		71-121	%	10.10.17 13:48

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030077

MB Sample Id: 7632337-1-BLK

Matrix: Solid

LCS Sample Id: 7632337-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632337-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	22.6	113	24.5	123	35-129	8	20	mg/kg	10.10.17 11:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		111		109		76-123	%	10.10.17 11:05
a,a,a-Trifluorotoluene	110		102		104		69-120	%	10.10.17 11:05



QC Summary 564902

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030077

Parent Sample Id: 564935-005

Matrix: Soil

MS Sample Id: 564935-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564935-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.90	19.5	18.4	94	19.4	98	35-129	5	20	mg/kg	10.10.17 13:48	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		98		76-123	%	10.10.17 13:48
a,a,a-Trifluorotoluene	93		95		69-120	%	10.10.17 13:48



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

CHAIN OF CUSTODY

Page 1 Of 1

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: TRC Environmental Corporation				Project Name/Number: Owl 20504 JV-P #005 SWD				Xenco Quote # 564902				Xenco Job # 564902			
Company Address: 2057 Commerce Drive Midland, TX 79703				Project Location: Eddy Co, NM											
Email: jlowry@trcsolutions.com				Invoice To: COG Operating CIO Becky Haskell											
Phone No: 432-466-4450				Invoice:											
Project Contact: Joel Lowry															
Sampler's Name: Joel Lowry															
No.	Field ID / Point of Collection	Sample Depth	Collection Date	Time	Matrix	# of bottles	NaOH/Zn	HCl	Acetate	HNO3	H2SO4	NaOH	MeOH	NONE	Field Comments
1	TT-10 @ Surf.	Surf	10/3/2017		S	1									TPH 8015 M Ext
2	TT-10 @ 1'	1	10/3/2017		S	1									Chloride E 300
3	TT-10 @ 2'	2	10/3/2017		S	1									
4	TT-10 @ 3'-G	3	10/3/2017		S	1									
5															
6															
7															
Turnaround Time (Business days)															
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 ☐															
TAT Starts Day received by Lab, if received by 5:00 pm															
FED-EX / UPS: Tracking #															
Notes: jlowry@trcsolutions.com rhaskell@concho.com sdstanley@trcsolutions.com															
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY															
Relinquished by Sampler: 1 Date Time: 10/5 5:00															
Relinquished by: 2 Date Time:															
Relinquished by: 3 Date Time:															
Relinquished by: 4 Date Time:															
Relinquished by: 5 Date Time:															
On Ice ☐ Cooler Temp ☐ Thermo Corr. Factor ☐															

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: 10/06/2017 05:00:00 PM

Work Order #: 564902

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564906

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 18-OCT-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	564906-001	564906-002	564906-003	564906-004		
	<i>Field Id:</i>	TT-11 @ Surf.	TT-11 @ 1'	TT-11 @ 2'	TT-11 @ 3'-G		
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00		
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00		Oct-06-17 14:00		
	<i>Analyzed:</i>	Oct-09-17 20:17	Oct-09-17 20:44		Oct-09-17 21:11		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL		mg/kg RL		
Benzene		<0.0200 0.0200	<0.0190 0.0190		<0.0181 0.0181		
Toluene		<0.0200 0.0200	<0.0190 0.0190		<0.0181 0.0181		
Ethylbenzene		<0.0200 0.0200	<0.0190 0.0190		<0.0181 0.0181		
Xylenes, Total		<0.02 0.02	<0.019 0.019		<0.0181 0.0181		
Total BTEX		<0.02 0.02	<0.019 0.019		<0.0181 0.0181		
Chloride by EPA 300	<i>Extracted:</i>	Oct-17-17 08:30	Oct-17-17 08:30	Oct-17-17 08:30	Oct-17-17 08:30		
	<i>Analyzed:</i>	Oct-17-17 18:27	Oct-17-17 19:04	Oct-17-17 19:54	Oct-17-17 20:19		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		<125 125	<125 125	<125 125	196 125		
DRO-ORO By SW8015B	<i>Extracted:</i>	Oct-06-17 14:30	Oct-06-17 14:30		Oct-06-17 14:30		
	<i>Analyzed:</i>	Oct-08-17 20:32	Oct-08-17 21:09		Oct-08-17 21:46		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL		mg/kg RL		
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0		<25.0 25.0		
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0		<25.0 25.0		
TPH GRO by EPA 8015 Mod.	<i>Extracted:</i>	Oct-06-17 14:00	Oct-06-17 14:00		Oct-06-17 14:00		
	<i>Analyzed:</i>	Oct-09-17 20:17	Oct-09-17 20:44		Oct-09-17 21:11		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL		mg/kg RL		
TPH-GRO		<3.99 3.99	<3.80 3.80		<3.63 3.63		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564906

**for
TRC Solutions, Inc**

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

18-OCT-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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



18-OCT-17

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

Reference: XENCO Report No(s): **564906**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564906. 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. 564906 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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Sample Cross Reference 564906

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-11 @ Surf.	S	10-03-17 00:00		564906-001
TT-11 @ 1'	S	10-03-17 00:00		564906-002
TT-11 @ 2'	S	10-03-17 00:00		564906-003
TT-11 @ 3'-G	S	10-03-17 00:00		564906-004



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 564906

Report Date: 18-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029956 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564899-001 S, 564899-001 SD.

Batch: LBA-3029991 BTEX by EPA 8021B

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

Batch: LBA-3030009 TPH GRO by EPA 8015 Mod.

Surrogate a,a,a-Trifluorotoluene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564906-002.

Batch: LBA-3030718 Chloride by EPA 300

Lab Sample ID 564906-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564906-001, -002, -003, -004.

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



Certificate of Analytical Results 564906

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-11 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564906-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030718

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.17.17 18.27	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 20.32	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 20.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	115	%	65-144	10.08.17 20.32	
n-Triacontane	638-68-6	99	%	46-152	10.08.17 20.32	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	10.09.17 20.17	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	10.09.17 20.17	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	10.09.17 20.17	U	1
Xylenes, Total	1330-20-7	<0.02	0.02	mg/kg	10.09.17 20.17	U	1
Total BTEX		<0.02	0.02	mg/kg	10.09.17 20.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	68-120	10.09.17 20.17	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.09.17 20.17	



Certificate of Analytical Results 564906

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-11 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564906-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.99	3.99	mg/kg	10.09.17 20.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	76-123	10.09.17 20.17		
a,a,a-Trifluorotoluene	98-08-8	119	%	69-120	10.09.17 20.17		



Certificate of Analytical Results 564906

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: TT-11 @ 1'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564906-002

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030718

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.17.17 19.04	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 21.09	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 21.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	120	%	65-144	10.08.17 21.09	
n-Triacontane	638-68-6	102	%	46-152	10.08.17 21.09	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0190	0.0190	mg/kg	10.09.17 20.44	U	1
Toluene	108-88-3	<0.0190	0.0190	mg/kg	10.09.17 20.44	U	1
Ethylbenzene	100-41-4	<0.0190	0.0190	mg/kg	10.09.17 20.44	U	1
Xylenes, Total	1330-20-7	<0.019	0.019	mg/kg	10.09.17 20.44	U	1
Total BTEX		<0.019	0.019	mg/kg	10.09.17 20.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.09.17 20.44	
a,a,a-Trifluorotoluene	98-08-8	114	%	71-121	10.09.17 20.44	



Certificate of Analytical Results 564906

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-11 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564906-002

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.80	3.80	mg/kg	10.09.17 20.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	76-123	10.09.17 20.44		
a,a,a-Trifluorotoluene	98-08-8	122	%	69-120	10.09.17 20.44	**	



Certificate of Analytical Results 564906

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-11 @ 2'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564906-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030718

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.17.17 19.54	U	5



Certificate of Analytical Results 564906

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: TT-11 @ 3'-G

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564906-004

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030718

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	196	125	mg/kg	10.17.17 20.19		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 21.46	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 21.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	127	%	65-144	10.08.17 21.46	
n-Triacontane	638-68-6	110	%	46-152	10.08.17 21.46	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0181	0.0181	mg/kg	10.09.17 21.11	U	1
Toluene	108-88-3	<0.0181	0.0181	mg/kg	10.09.17 21.11	U	1
Ethylbenzene	100-41-4	<0.0181	0.0181	mg/kg	10.09.17 21.11	U	1
Xylenes, Total	1330-20-7	<0.0181	0.0181	mg/kg	10.09.17 21.11	U	1
Total BTEX		<0.0181	0.0181	mg/kg	10.09.17 21.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	68-120	10.09.17 21.11	
a,a,a-Trifluorotoluene	98-08-8	98	%	71-121	10.09.17 21.11	



Certificate of Analytical Results 564906

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-11 @ 3'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564906-004

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.63	3.63	mg/kg	10.09.17 21.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	76-123	10.09.17 21.11		
a,a,a-Trifluorotoluene	98-08-8	104	%	69-120	10.09.17 21.11		

- 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

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QC Summary 564906

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030718

MB Sample Id: 7632789-1-BLK

Matrix: Solid

LCS Sample Id: 7632789-1-BKS

Prep Method: E300P

Date Prep: 10.17.17

LCSD Sample Id: 7632789-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	243	97	239	96	90-110	2	20	mg/kg	10.17.17 15:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3030718

Parent Sample Id: 564900-001

Matrix: Soil

MS Sample Id: 564900-001 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564900-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 17:12	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030718

Parent Sample Id: 564906-002

Matrix: Soil

MS Sample Id: 564906-002 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564906-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 19:29	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

MB Sample Id: 7632254-1-BLK

Matrix: Solid

LCS Sample Id: 7632254-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632254-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	111	111	114	114	63-139	3	20	mg/kg	10.08.17 12:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	110		120		123		65-144	%	10.08.17 12:34
n-Triacontane	98		97		101		46-152	%	10.08.17 12:34

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

Parent Sample Id: 564899-001

Matrix: Soil

MS Sample Id: 564899-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564899-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	41.0	100	156	115	158	117	63-139	1	20	mg/kg	10.08.17 14:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	168	**	170	**	65-144	%	10.08.17 14:22
n-Triacontane	126		132		46-152	%	10.08.17 14:22



QC Summary 564906

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

MB Sample Id: 7632293-1-BLK

Matrix: Solid

LCS Sample Id: 7632293-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632293-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.09	105	2.13	107	55-120	2	20	mg/kg	10.09.17 14:23	
Toluene	<0.0200	2.00	2.11	106	2.15	108	77-120	2	20	mg/kg	10.09.17 14:23	
Ethylbenzene	<0.0200	2.00	2.07	104	2.15	108	77-120	4	20	mg/kg	10.09.17 14:23	
Xylenes, Total	0	6	6.21	104	6.44	107	71-133	0	20	mg/kg	10.09.17 14:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		102		103		68-120	%	10.09.17 14:23
a,a,a-Trifluorotoluene	104		96		100		71-121	%	10.09.17 14:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0195	1.95	2.08	107	2.07	107	54-120	0	25	mg/kg	10.09.17 18:00	
Toluene	<0.0195	1.95	2.25	115	2.26	117	57-120	0	25	mg/kg	10.09.17 18:00	
Ethylbenzene	<0.0195	1.95	2.32	119	2.01	104	58-131	14	25	mg/kg	10.09.17 18:00	
Xylenes, Total	0	5.85	6.94	119	6.66	115	71-133	0	20	mg/kg	10.09.17 18:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		110		68-120	%	10.09.17 18:00
a,a,a-Trifluorotoluene	109		111		71-121	%	10.09.17 18:00

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

MB Sample Id: 7632294-1-BLK

Matrix: Solid

LCS Sample Id: 7632294-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632294-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	20.7	104	20.1	101	35-129	3	20	mg/kg	10.09.17 15:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	110		114		97		76-123	%	10.09.17 15:17
a,a,a-Trifluorotoluene	116		108		96		69-120	%	10.09.17 15:17



QC Summary 564906

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.85	19.3	16.6	86	14.9	78	35-129	11	20	mg/kg	10.09.17 18:55	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	105		121		76-123	%	10.09.17 18:55
a,a,a-Trifluorotoluene	100		107		69-120	%	10.09.17 18:55



Page 1 Of 1

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Xenco Quote #	Xenco Job #



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2017 05:00:00 PM

Work Order #: 564906

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564911

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 18-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564911-001	564911-002	564911-003	564911-004		
	Field Id:	TT-12 @ Surf.	TT-12 @ 1'	TT-12 @ 2'	TT-12 @ 3'-G		
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00		
BTEX by EPA 8021B	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00		Oct-06-17 14:00		
	Analyzed:	Oct-09-17 21:38	Oct-09-17 22:04		Oct-09-17 22:31		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
Benzene		<0.0189 0.0189	<0.0195 0.0195		<0.0191 0.0191		
Toluene		<0.0189 0.0189	<0.0195 0.0195		<0.0191 0.0191		
Ethylbenzene		<0.0189 0.0189	<0.0195 0.0195		<0.0191 0.0191		
Xylenes, Total		<0.0189 0.0189	<0.0195 0.0195		<0.0191 0.0191		
Total BTEX		<0.0189 0.0189	<0.0195 0.0195		<0.0191 0.0191		
Chloride by EPA 300	Extracted:	Oct-17-17 08:30	Oct-17-17 08:30	Oct-17-17 08:30	Oct-17-17 08:30		
	Analyzed:	Oct-17-17 20:43	Oct-17-17 21:08	Oct-17-17 22:23	Oct-17-17 23:12		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		157 125	154 125	<125 125	<125 125		
DRO-ORO By SW8015B	Extracted:	Oct-06-17 14:30	Oct-06-17 14:30		Oct-06-17 14:30		
	Analyzed:	Oct-08-17 22:22	Oct-08-17 22:59		Oct-08-17 23:35		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0		<25.0 25.0		
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0		<25.0 25.0		
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00		Oct-06-17 14:00		
	Analyzed:	Oct-09-17 21:38	Oct-09-17 22:04		Oct-09-17 22:31		
	Units/RL:	mg/kg RL	mg/kg RL		mg/kg RL		
TPH-GRO		<3.77 3.77	<3.90 3.90		<3.82 3.82		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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Kelsey Brooks
Project Manager

Analytical Report 564911

for

TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

18-OCT-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



18-OCT-17

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

Reference: XENCO Report No(s): **564911**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564911. 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. 564911 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564911

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-12 @ Surf.	S	10-03-17 00:00		564911-001
TT-12 @ 1'	S	10-03-17 00:00		564911-002
TT-12 @ 2'	S	10-03-17 00:00		564911-003
TT-12 @ 3'-G	S	10-03-17 00:00		564911-004



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 564911

Report Date: 18-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029956 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564899-001 S, 564899-001 SD.

Batch: LBA-3029991 BTEX by EPA 8021B

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

Batch: LBA-3030009 TPH GRO by EPA 8015 Mod.

Surrogate a,a,a-Trifluorotoluene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564911-004.

Batch: LBA-3030721 Chloride by EPA 300

Lab Sample ID 564911-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564911-003, -004.

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



Certificate of Analytical Results 564911

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-12 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564911-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030718

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	157	125	mg/kg	10.17.17 20.43		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 22.22	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 22.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	125	%	65-144	10.08.17 22.22	
n-Triacontane	638-68-6	106	%	46-152	10.08.17 22.22	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0189	0.0189	mg/kg	10.09.17 21.38	U	1
Toluene	108-88-3	<0.0189	0.0189	mg/kg	10.09.17 21.38	U	1
Ethylbenzene	100-41-4	<0.0189	0.0189	mg/kg	10.09.17 21.38	U	1
Xylenes, Total	1330-20-7	<0.0189	0.0189	mg/kg	10.09.17 21.38	U	1
Total BTEX		<0.0189	0.0189	mg/kg	10.09.17 21.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.09.17 21.38	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	10.09.17 21.38	



Certificate of Analytical Results 564911

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-12 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564911-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.77	3.77	mg/kg	10.09.17 21.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	76-123	10.09.17 21.38		
a,a,a-Trifluorotoluene	98-08-8	120	%	69-120	10.09.17 21.38		



Certificate of Analytical Results 564911

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: TT-12 @ 1'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564911-002

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030718

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	154	125	mg/kg	10.17.17 21.08		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 22.59	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 22.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	124	%	65-144	10.08.17 22.59	
n-Triacontane	638-68-6	107	%	46-152	10.08.17 22.59	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0195	0.0195	mg/kg	10.09.17 22.04	U	1
Toluene	108-88-3	<0.0195	0.0195	mg/kg	10.09.17 22.04	U	1
Ethylbenzene	100-41-4	<0.0195	0.0195	mg/kg	10.09.17 22.04	U	1
Xylenes, Total	1330-20-7	<0.0195	0.0195	mg/kg	10.09.17 22.04	U	1
Total BTEX		<0.0195	0.0195	mg/kg	10.09.17 22.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.09.17 22.04	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	10.09.17 22.04	



Certificate of Analytical Results 564911

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-12 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564911-002

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.90	3.90	mg/kg	10.09.17 22.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	76-123	10.09.17 22.04		
a,a,a-Trifluorotoluene	98-08-8	118	%	69-120	10.09.17 22.04		



Certificate of Analytical Results 564911

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-12 @ 2'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564911-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030721

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.17.17 22.23	U	5



Certificate of Analytical Results 564911

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: TT-12 @ 3'-G

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564911-004

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030721

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.17.17 23.12	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.08.17 23.35	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.08.17 23.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	120	%	65-144	10.08.17 23.35	
n-Triacontane	638-68-6	105	%	46-152	10.08.17 23.35	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0191	0.0191	mg/kg	10.09.17 22.31	U	1
Toluene	108-88-3	<0.0191	0.0191	mg/kg	10.09.17 22.31	U	1
Ethylbenzene	100-41-4	<0.0191	0.0191	mg/kg	10.09.17 22.31	U	1
Xylenes, Total	1330-20-7	<0.0191	0.0191	mg/kg	10.09.17 22.31	U	1
Total BTEX		<0.0191	0.0191	mg/kg	10.09.17 22.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.09.17 22.31	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.09.17 22.31	



Certificate of Analytical Results 564911

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-12 @ 3'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564911-004

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.82	3.82	mg/kg	10.09.17 22.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	76-123	10.09.17 22.31		
a,a,a-Trifluorotoluene	98-08-8	121	%	69-120	10.09.17 22.31	**	

- 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

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(432) 563-1800	(432) 563-1713
(602) 437-0330	

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD**Analytical Method: Chloride by EPA 300**

Seq Number: 3030718

MB Sample Id: 7632789-1-BLK

Matrix: Solid

LCS Sample Id: 7632789-1-BKS

Prep Method: E300P

Date Prep: 10.17.17

LCSD Sample Id: 7632789-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	243	97	239	96	90-110	2	20	mg/kg	10.17.17 15:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3030721

MB Sample Id: 7632790-1-BLK

Matrix: Solid

LCS Sample Id: 7632790-1-BKS

Prep Method: E300P

Date Prep: 10.17.17

LCSD Sample Id: 7632790-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	241	96	242	97	90-110	0	20	mg/kg	10.17.17 21:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3030718

Parent Sample Id: 564900-001

Matrix: Soil

MS Sample Id: 564900-001 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564900-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 17:12	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030718

Parent Sample Id: 564906-002

Matrix: Soil

MS Sample Id: 564906-002 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564906-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 19:29	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030721

Parent Sample Id: 564911-003

Matrix: Soil

MS Sample Id: 564911-003 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564911-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 22:48	X

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

MB Sample Id: 7632254-1-BLK

Matrix: Solid

LCS Sample Id: 7632254-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632254-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	111	111	114	114	63-139	3	20	mg/kg	10.08.17 12:34	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
Tricosane	110		120		123		65-144	%	10.08.17 12:34			
n-Triacontane	98		97		101		46-152	%	10.08.17 12:34			

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

Parent Sample Id: 564899-001

Matrix: Soil

MS Sample Id: 564899-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564899-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	41.0	100	156	115	158	117	63-139	1	20	mg/kg	10.08.17 14:22	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
Tricosane			168	**	170	**	65-144	%	10.08.17 14:22			
n-Triacontane			126		132		46-152	%	10.08.17 14:22			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

MB Sample Id: 7632293-1-BLK

Matrix: Solid

LCS Sample Id: 7632293-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632293-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.09	105	2.13	107	55-120	2	20	mg/kg	10.09.17 14:23	
Toluene	<0.0200	2.00	2.11	106	2.15	108	77-120	2	20	mg/kg	10.09.17 14:23	
Ethylbenzene	<0.0200	2.00	2.07	104	2.15	108	77-120	4	20	mg/kg	10.09.17 14:23	
Xylenes, Total	0	6	6.21	104	6.44	107	71-133	0	20	mg/kg	10.09.17 14:23	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	107		102		103		68-120	%	10.09.17 14:23			
a,a,a-Trifluorotoluene	104		96		100		71-121	%	10.09.17 14:23			

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0195	1.95	2.08	107	2.07	107	54-120	0	25	mg/kg	10.09.17 18:00	
Toluene	<0.0195	1.95	2.25	115	2.26	117	57-120	0	25	mg/kg	10.09.17 18:00	
Ethylbenzene	<0.0195	1.95	2.32	119	2.01	104	58-131	14	25	mg/kg	10.09.17 18:00	
Xylenes, Total	0	5.85	6.94	119	6.66	115	71-133	0	20	mg/kg	10.09.17 18:00	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		110		68-120	%	10.09.17 18:00
a,a,a-Trifluorotoluene	109		111		71-121	%	10.09.17 18:00

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

MB Sample Id: 7632294-1-BLK

Matrix: Solid

LCS Sample Id: 7632294-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632294-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	20.7	104	20.1	101	35-129	3	20	mg/kg	10.09.17 15:17	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	110		114		97		76-123	%	10.09.17 15:17
a,a,a-Trifluorotoluene	116		108		96		69-120	%	10.09.17 15:17

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.85	19.3	16.6	86	14.9	78	35-129	11	20	mg/kg	10.09.17 18:55	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	105		121		76-123	%	10.09.17 18:55
a,a,a-Trifluorotoluene	100		107		69-120	%	10.09.17 18:55



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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2017 05:00:00 PM

Work Order #: 564911

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564912

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 18-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564912-001	564912-002	564912-003			
	Field Id:	TT-13 @ Surf.	TT-13 @ 1'	TT-13 @ 1.5'-G			
	Depth:						
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00			
BTEX by EPA 8021B	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00			
	Analyzed:	Oct-09-17 22:58	Oct-09-17 23:24	Oct-09-17 23:51			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.0187 0.0187	<0.0193 0.0193	<0.0181 0.0181			
Toluene		<0.0187 0.0187	<0.0193 0.0193	<0.0181 0.0181			
Ethylbenzene		<0.0187 0.0187	<0.0193 0.0193	<0.0181 0.0181			
Xylenes, Total		<0.0187 0.0187	<0.0193 0.0193	<0.0181 0.0181			
Total BTEX		<0.0187 0.0187	<0.0193 0.0193	<0.0181 0.0181			
Chloride by EPA 300	Extracted:	Oct-17-17 08:30	Oct-17-17 08:30	Oct-17-17 08:30			
	Analyzed:	Oct-17-17 23:37	Oct-18-17 00:02	Oct-18-17 00:27			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		<125 125	<125 125	<125 125			
DRO-ORO By SW8015B	Extracted:	Oct-06-17 14:30	Oct-06-17 14:30	Oct-06-17 14:30			
	Analyzed:	Oct-09-17 00:11	Oct-09-17 00:47	Oct-09-17 01:24			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0	<25.0 25.0			
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0	<25.0 25.0			
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00			
	Analyzed:	Oct-09-17 22:58	Oct-09-17 23:24	Oct-09-17 23:51			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
TPH-GRO		<3.73 3.73	<3.87 3.87	<3.62 3.62			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564912

**for
TRC Solutions, Inc**

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

18-OCT-17

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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



18-OCT-17

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

Reference: XENCO Report No(s): **564912**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564912. 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. 564912 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564912

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-13 @ Surf.	S	10-03-17 00:00		564912-001
TT-13 @ 1'	S	10-03-17 00:00		564912-002
TT-13 @ 1.5'-G	S	10-03-17 00:00		564912-003



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 564912

Report Date: 18-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029956 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 564899-001 S, 564899-001 SD.

Batch: LBA-3029991 BTEX by EPA 8021B

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



Certificate of Analytical Results 564912

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-13 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564912-001

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030721

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.17.17 23.37	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 00.11	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 00.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	115	%	65-144	10.09.17 00.11	
n-Triacontane	638-68-6	98	%	46-152	10.09.17 00.11	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0187	0.0187	mg/kg	10.09.17 22.58	U	1
Toluene	108-88-3	<0.0187	0.0187	mg/kg	10.09.17 22.58	U	1
Ethylbenzene	100-41-4	<0.0187	0.0187	mg/kg	10.09.17 22.58	U	1
Xylenes, Total	1330-20-7	<0.0187	0.0187	mg/kg	10.09.17 22.58	U	1
Total BTEX		<0.0187	0.0187	mg/kg	10.09.17 22.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.09.17 22.58	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	10.09.17 22.58	



Certificate of Analytical Results 564912

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-13 @ Surf.**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564912-001

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.73	3.73	mg/kg	10.09.17 22.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	10.09.17 22.58		
a,a,a-Trifluorotoluene	98-08-8	118	%	69-120	10.09.17 22.58		



Certificate of Analytical Results 564912

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: TT-13 @ 1'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564912-002

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030721

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 00.02	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 00.47	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 00.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	122	%	65-144	10.09.17 00.47	
n-Triacontane	638-68-6	103	%	46-152	10.09.17 00.47	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0193	0.0193	mg/kg	10.09.17 23.24	U	1
Toluene	108-88-3	<0.0193	0.0193	mg/kg	10.09.17 23.24	U	1
Ethylbenzene	100-41-4	<0.0193	0.0193	mg/kg	10.09.17 23.24	U	1
Xylenes, Total	1330-20-7	<0.0193	0.0193	mg/kg	10.09.17 23.24	U	1
Total BTEX		<0.0193	0.0193	mg/kg	10.09.17 23.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.09.17 23.24	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.09.17 23.24	



Certificate of Analytical Results 564912

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-13 @ 1'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564912-002

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.87	3.87	mg/kg	10.09.17 23.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	10.09.17 23.24		
a,a,a-Trifluorotoluene	98-08-8	120	%	69-120	10.09.17 23.24		



Certificate of Analytical Results 564912

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: TT-13 @ 1.5'-G

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564912-003

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 08.30

Basis: Wet Weight

Seq Number: 3030721

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 00.27	U	5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 14.30

Basis: Wet Weight

Seq Number: 3029956

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 01.24	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 01.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	121	%	65-144	10.09.17 01.24	
n-Triacontane	638-68-6	102	%	46-152	10.09.17 01.24	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3029991

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0181	0.0181	mg/kg	10.09.17 23.51	U	1
Toluene	108-88-3	<0.0181	0.0181	mg/kg	10.09.17 23.51	U	1
Ethylbenzene	100-41-4	<0.0181	0.0181	mg/kg	10.09.17 23.51	U	1
Xylenes, Total	1330-20-7	<0.0181	0.0181	mg/kg	10.09.17 23.51	U	1
Total BTEX		<0.0181	0.0181	mg/kg	10.09.17 23.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.09.17 23.51	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.09.17 23.51	



Certificate of Analytical Results 564912

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **TT-13 @ 1.5'-G**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564912-003

Date Collected: 10.03.17 00.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.62	3.62	mg/kg	10.09.17 23.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	76-123	10.09.17 23.51		
a,a,a-Trifluorotoluene	98-08-8	120	%	69-120	10.09.17 23.51		

- 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

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(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



QC Summary 564912

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030721

MB Sample Id: 7632790-1-BLK

Matrix: Solid

LCS Sample Id: 7632790-1-BKS

Prep Method: E300P

Date Prep: 10.17.17

LCSD Sample Id: 7632790-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	241	96	242	97	90-110	0	20	mg/kg	10.17.17 21:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3030721

Parent Sample Id: 564911-003

Matrix: Soil

MS Sample Id: 564911-003 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564911-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.17.17 22:48	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

MB Sample Id: 7632254-1-BLK

Matrix: Solid

LCS Sample Id: 7632254-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632254-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	111	111	114	114	63-139	3	20	mg/kg	10.08.17 12:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	110		120		123		65-144	%	10.08.17 12:34
n-Triacontane	98		97		101		46-152	%	10.08.17 12:34

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029956

Parent Sample Id: 564899-001

Matrix: Soil

MS Sample Id: 564899-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564899-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	41.0	100	156	115	158	117	63-139	1	20	mg/kg	10.08.17 14:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	168	**	170	**	65-144	%	10.08.17 14:22
n-Triacontane	126		132		46-152	%	10.08.17 14:22



QC Summary 564912

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

MB Sample Id: 7632293-1-BLK

Matrix: Solid

LCS Sample Id: 7632293-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632293-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.09	105	2.13	107	55-120	2	20	mg/kg	10.09.17 14:23	
Toluene	<0.0200	2.00	2.11	106	2.15	108	77-120	2	20	mg/kg	10.09.17 14:23	
Ethylbenzene	<0.0200	2.00	2.07	104	2.15	108	77-120	4	20	mg/kg	10.09.17 14:23	
Xylenes, Total	0	6	6.21	104	6.44	107	71-133	0	20	mg/kg	10.09.17 14:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		102		103		68-120	%	10.09.17 14:23
a,a,a-Trifluorotoluene	104		96		100		71-121	%	10.09.17 14:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0195	1.95	2.08	107	2.07	107	54-120	0	25	mg/kg	10.09.17 18:00	
Toluene	<0.0195	1.95	2.25	115	2.26	117	57-120	0	25	mg/kg	10.09.17 18:00	
Ethylbenzene	<0.0195	1.95	2.32	119	2.01	104	58-131	14	25	mg/kg	10.09.17 18:00	
Xylenes, Total	0	5.85	6.94	119	6.66	115	71-133	0	20	mg/kg	10.09.17 18:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		110		68-120	%	10.09.17 18:00
a,a,a-Trifluorotoluene	109		111		71-121	%	10.09.17 18:00

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

MB Sample Id: 7632294-1-BLK

Matrix: Solid

LCS Sample Id: 7632294-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632294-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	20.7	104	20.1	101	35-129	3	20	mg/kg	10.09.17 15:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	110		114		97		76-123	%	10.09.17 15:17
a,a,a-Trifluorotoluene	116		108		96		69-120	%	10.09.17 15:17



QC Summary 564912

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.85	19.3	16.6	86	14.9	78	35-129	11	20	mg/kg	10.09.17 18:55	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	105		121		76-123	%	10.09.17 18:55
a,a,a-Trifluorotoluene	100		107		69-120	%	10.09.17 18:55



Page 1 of 1

San Antonio, Texas (210-509-3334)

Phoenix, Arizona (480-355-0900)

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

564912

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Client / Reporting Information				Project Information				Xenco Quote #		Xenco Job #									
Company Name / Branch:				Project Name/Number:															
TRC Environmental Corporation				OWI 20504 JV-P #005 SWD															
Company Address:				Project Location:															
2057 Commerce Drive Midland, TX 79703				Eddy Co, NM															
Email: jlowry@trcsolutions.com				Phone No: 432-466-4450															
Invoice To: COG Operating C/O Becky Haskell																			
Project Contact: Joel Lowry																			
Sampler's Name Joel Lowry																			
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO ₃	H ₂ SO ₄	NaOH	MeOH	NONE	BTEX 8021B	Chloride E 300	TPH 8015 M Ext	Analytical Information	Matrix Codes	
1	TT-13 @ Surf.	Surf.	10/3/2017		s	1								x	x			W = Water	
2	TT-13 @ 1'-G	1	10/3/2017		s	1								x	x			S = Soil/Sed/Solid	
3	TT-13 @ 1.5'-G	1.5	10/3/2017		s	1								x	x			GW = Ground Water	
4																		DW = Drinking Water	
5																		P = Product	
6																		SW = Surface water	
7																		SL = Sludge	
																		OW = Ocean/Sea Water	
																		WI = Wipe	
																		O = Oil	
																		WW= Waste Water	
																		A = Air	
Turnaround Time (Business days)																		Notes:	
☐ Same Day TAT ☐ 5 Day TAT Level II Std QC ☐ Level IV (Full Data Pkg / raw data) jlowry@trcsolutions.com																			
☐ Next Day EMERGENCY ☐ 7 Day TAT Level III Std QC+ Forms ☐ TRRP Level IV rhaskeil@concho.com																			
☐ 2 Day EMERGENCY ☒ Contract TAT Level 3 (CLP Forms) ☐ UST / RG -411 sdstanley@trcsolutions.com																			
☐ 3 Day EMERGENCY TRRP Checklist																			
TAT Starts Day received by Lab, if received by 5:00 pm																		FED-EX / UPS: Tracking #	
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																			
Relinquished By Sampler:																		Received By:	
Date Time: 10/5 5:00 PM																		Date Time: 10/5 5:00 PM	
Relinquished by:																		Received By:	
Date Time: 10/5 5:00 PM																		Date Time: 10/5 5:00 PM	
Relinquished by:																		Received By:	
Date Time: 10/5 5:00 PM																		Date Time: 10/5 5:00 PM	
Cooler Temp. Factor																		On Ice	

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 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: 10/05/2017 05:00:00 PM

Work Order #: 564912

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564921

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co., NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 19-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564921-001	564921-002	564921-003	564921-004	564921-005	564921-006
	Field Id:	North #1	North #2	North #3	South #1	South #2	South #3
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00
BTEX by EPA 8021B	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 16:00	Oct-06-17 16:00
	Analyzed:	Oct-10-17 01:37	Oct-10-17 02:04	Oct-10-17 02:31	Oct-10-17 02:59	Oct-10-17 16:03	Oct-10-17 16:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.0192 0.0192	<0.0197 0.0197	<0.0199 0.0199	<0.0185 0.0185	<0.0196 0.0196	<0.0197 0.0197
Toluene		<0.0192 0.0192	<0.0197 0.0197	<0.0199 0.0199	<0.0185 0.0185	<0.0196 0.0196	<0.0197 0.0197
Ethylbenzene		<0.0192 0.0192	<0.0197 0.0197	<0.0199 0.0199	<0.0185 0.0185	<0.0196 0.0196	<0.0197 0.0197
Xylenes, Total		<0.0192 0.0192	<0.0197 0.0197	<0.0199 0.0199	<0.0185 0.0185	<0.0196 0.0196	<0.0197 0.0197
Total BTEX		<0.0192 0.0192	<0.0197 0.0197	<0.0199 0.0199	<0.0185 0.0185	<0.0196 0.0196	<0.0197 0.0197
Chloride by EPA 300	Extracted:	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00
	Analyzed:	Oct-18-17 09:48	Oct-18-17 10:37	Oct-18-17 11:02	Oct-18-17 11:27	Oct-18-17 11:52	Oct-18-17 12:29
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<125 125	<125 125	<125 125	<125 125	<125 125	<125 125
DRO-ORO By SW8015B	Extracted:	Oct-06-17 15:00	Oct-06-17 15:00	Oct-06-17 15:00	Oct-06-17 15:00	Oct-06-17 15:00	Oct-06-17 15:00
	Analyzed:	Oct-09-17 04:22	Oct-09-17 06:08	Oct-09-17 06:43	Oct-09-17 07:18	Oct-09-17 07:53	Oct-09-17 08:28
	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	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 16:00	Oct-06-17 16:00
	Analyzed:	Oct-10-17 01:37	Oct-10-17 02:04	Oct-10-17 02:31	Oct-10-17 02:59	Oct-10-17 16:03	Oct-10-17 16:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
TPH-GRO		<3.85 3.85	<3.94 3.94	<3.98 3.98	<3.70 3.70	<3.91 3.91	<3.94 3.94

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 564921

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co., NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 19-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564921-007	564921-008				
	Field Id:	East #1	West #1				
	Depth:						
	Matrix:	SOIL	SOIL				
	Sampled:	Oct-03-17 00:00	Oct-03-17 00:00				
BTEX by EPA 8021B	Extracted:	Oct-06-17 16:00	Oct-06-17 16:00				
	Analyzed:	Oct-10-17 16:58	Oct-10-17 17:25				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.0197 0.0197	<0.0189 0.0189				
Toluene		<0.0197 0.0197	<0.0189 0.0189				
Ethylbenzene		<0.0197 0.0197	<0.0189 0.0189				
Xylenes, Total		<0.0197 0.0197	<0.0189 0.0189				
Total BTEX		<0.0197 0.0197	<0.0189 0.0189				
Chloride by EPA 300	Extracted:	Oct-17-17 12:00	Oct-17-17 12:00				
	Analyzed:	Oct-18-17 13:19	Oct-18-17 13:43				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		1370 D 125	9470 D 2500				
DRO-ORO By SW8015B	Extracted:	Oct-06-17 15:00	Oct-06-17 15:00				
	Analyzed:	Oct-09-17 09:03	Oct-09-17 09:39				
	Units/RL:	mg/kg RL	mg/kg RL				
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0				
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0				
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-06-17 16:00	Oct-06-17 16:00				
	Analyzed:	Oct-10-17 16:58	Oct-10-17 17:25				
	Units/RL:	mg/kg RL	mg/kg RL				
TPH-GRO		<3.94 3.94	<3.77 3.77				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564921

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

19-OCT-17

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)



19-OCT-17

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

Reference: XENCO Report No(s): **564921**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564921. 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. 564921 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

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

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Sample Cross Reference 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North #1	S	10-03-17 00:00		564921-001
North #2	S	10-03-17 00:00		564921-002
North #3	S	10-03-17 00:00		564921-003
South #1	S	10-03-17 00:00		564921-004
South #2	S	10-03-17 00:00		564921-005
South #3	S	10-03-17 00:00		564921-006
East #1	S	10-03-17 00:00		564921-007
West #1	S	10-03-17 00:00		564921-008



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 564921

Report Date: 19-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029991 BTEX by EPA 8021B

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

Batch: LBA-3030076 BTEX by EPA 8021B

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

Batch: LBA-3030799 Chloride by EPA 300

Lab Sample ID 564921-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564921-001, -002, -003, -004, -005, -006, -007, -008.

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



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #1**
Lab Sample Id: 564921-001

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 09.48	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 04.22	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 04.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	10.09.17 04.22	
n-Triacontane	638-68-6	98	%	46-152	10.09.17 04.22	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029991

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	10.10.17 01.37	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	10.10.17 01.37	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	10.10.17 01.37	U	1
Xylenes, Total	1330-20-7	<0.0192	0.0192	mg/kg	10.10.17 01.37	U	1
Total BTEX		<0.0192	0.0192	mg/kg	10.10.17 01.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.10.17 01.37	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	10.10.17 01.37	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #1**
Lab Sample Id: 564921-001

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.85	3.85	mg/kg	10.10.17 01.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	76-123	10.10.17 01.37		
a,a,a-Trifluorotoluene	98-08-8	119	%	69-120	10.10.17 01.37		



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #2**
Lab Sample Id: 564921-002

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 10.37	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 06.08	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 06.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	118	%	65-144	10.09.17 06.08	
n-Triacontane	638-68-6	101	%	46-152	10.09.17 06.08	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029991

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.10.17 02.04	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	10.10.17 02.04	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.10.17 02.04	U	1
Xylenes, Total	1330-20-7	<0.0197	0.0197	mg/kg	10.10.17 02.04	U	1
Total BTEX		<0.0197	0.0197	mg/kg	10.10.17 02.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.10.17 02.04	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 02.04	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #2**
Lab Sample Id: 564921-002

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.94	3.94	mg/kg	10.10.17 02.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	76-123	10.10.17 02.04		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.10.17 02.04		



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #3**
Lab Sample Id: 564921-003

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 11.02	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 06.43	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 06.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	123	%	65-144	10.09.17 06.43	
n-Triacontane	638-68-6	105	%	46-152	10.09.17 06.43	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029991

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	10.10.17 02.31	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	10.10.17 02.31	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	10.10.17 02.31	U	1
Xylenes, Total	1330-20-7	<0.0199	0.0199	mg/kg	10.10.17 02.31	U	1
Total BTEX		<0.0199	0.0199	mg/kg	10.10.17 02.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.10.17 02.31	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 02.31	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #3**
Lab Sample Id: 564921-003

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.98	3.98	mg/kg	10.10.17 02.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	76-123	10.10.17 02.31		
a,a,a-Trifluorotoluene	98-08-8	119	%	69-120	10.10.17 02.31		



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #1**
Lab Sample Id: 564921-004

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 11.27	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 07.18	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 07.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	117	%	65-144	10.09.17 07.18	
n-Triacontane	638-68-6	100	%	46-152	10.09.17 07.18	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029991

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0185	0.0185	mg/kg	10.10.17 02.59	U	1
Toluene	108-88-3	<0.0185	0.0185	mg/kg	10.10.17 02.59	U	1
Ethylbenzene	100-41-4	<0.0185	0.0185	mg/kg	10.10.17 02.59	U	1
Xylenes, Total	1330-20-7	<0.0185	0.0185	mg/kg	10.10.17 02.59	U	1
Total BTEX		<0.0185	0.0185	mg/kg	10.10.17 02.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.10.17 02.59	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	10.10.17 02.59	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #1**
Lab Sample Id: 564921-004

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.70	3.70	mg/kg	10.10.17 02.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	10.10.17 02.59		
a,a,a-Trifluorotoluene	98-08-8	119	%	69-120	10.10.17 02.59		



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #2**
Lab Sample Id: 564921-005

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 11.52	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 07.53	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 07.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	10.09.17 07.53	
n-Triacontane	638-68-6	100	%	46-152	10.09.17 07.53	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3030076

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	10.10.17 16.03	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	10.10.17 16.03	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	10.10.17 16.03	U	1
Xylenes, Total	1330-20-7	<0.0196	0.0196	mg/kg	10.10.17 16.03	U	1
Total BTEX		<0.0196	0.0196	mg/kg	10.10.17 16.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.10.17 16.03	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 16.03	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #2**
Lab Sample Id: 564921-005

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.91	3.91	mg/kg	10.10.17 16.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	76-123	10.10.17 16.03		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.10.17 16.03		



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #3**
Lab Sample Id: 564921-006

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 12.29	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 08.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 08.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	10.09.17 08.28	
n-Triacontane	638-68-6	100	%	46-152	10.09.17 08.28	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3030076

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.10.17 16.31	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	10.10.17 16.31	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.10.17 16.31	U	1
Xylenes, Total	1330-20-7	<0.0197	0.0197	mg/kg	10.10.17 16.31	U	1
Total BTEX		<0.0197	0.0197	mg/kg	10.10.17 16.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.10.17 16.31	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 16.31	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #3**
Lab Sample Id: 564921-006

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.94	3.94	mg/kg	10.10.17 16.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	76-123	10.10.17 16.31		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.10.17 16.31		



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **East #1**
Lab Sample Id: 564921-007

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1370	125	mg/kg	10.18.17 13.31	D	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 09.03	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 09.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	121	%	65-144	10.09.17 09.03	
n-Triacontane	638-68-6	102	%	46-152	10.09.17 09.03	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3030076

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.10.17 16.58	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	10.10.17 16.58	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.10.17 16.58	U	1
Xylenes, Total	1330-20-7	<0.0197	0.0197	mg/kg	10.10.17 16.58	U	1
Total BTEX		<0.0197	0.0197	mg/kg	10.10.17 16.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.10.17 16.58	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	10.10.17 16.58	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **East #1**
Lab Sample Id: 564921-007

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.94	3.94	mg/kg	10.10.17 16.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	10.10.17 16.58		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.10.17 16.58		



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **West #1**
Lab Sample Id: 564921-008

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9470	2500	mg/kg	10.18.17 13.56	D	100

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 09.39	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 09.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	10.09.17 09.39	
n-Triacontane	638-68-6	96	%	46-152	10.09.17 09.39	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3030076

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0189	0.0189	mg/kg	10.10.17 17.25	U	1
Toluene	108-88-3	<0.0189	0.0189	mg/kg	10.10.17 17.25	U	1
Ethylbenzene	100-41-4	<0.0189	0.0189	mg/kg	10.10.17 17.25	U	1
Xylenes, Total	1330-20-7	<0.0189	0.0189	mg/kg	10.10.17 17.25	U	1
Total BTEX		<0.0189	0.0189	mg/kg	10.10.17 17.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.10.17 17.25	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 17.25	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **West #1**
Lab Sample Id: 564921-008

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.77	3.77	mg/kg	10.10.17 17.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	10.10.17 17.25		
a,a,a-Trifluorotoluene	98-08-8	118	%	69-120	10.10.17 17.25		

- 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

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(602) 437-0330	



QC Summary 564921

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030799

MB Sample Id: 7632829-1-BLK

Matrix: Solid

LCS Sample Id: 7632829-1-BKS

Prep Method: E300P

Date Prep: 10.17.17

LCSD Sample Id: 7632829-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	250	100	238	95	90-110	5	20	mg/kg	10.18.17 09:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3030799

Parent Sample Id: 564921-001

Matrix: Soil

MS Sample Id: 564921-001 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564921-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.18.17 10:12	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030799

Parent Sample Id: 564921-006

Matrix: Soil

MS Sample Id: 564921-006 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564921-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.18.17 12:54	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029960

MB Sample Id: 7632255-1-BLK

Matrix: Solid

LCS Sample Id: 7632255-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632255-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	117	117	105	105	63-139	11	20	mg/kg	10.09.17 03:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	107		119		110		65-144	%	10.09.17 03:11
n-Triacontane	86		88		87		46-152	%	10.09.17 03:11

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029960

Parent Sample Id: 564921-001

Matrix: Soil

MS Sample Id: 564921-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564921-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	108	108	114	114	63-139	5	20	mg/kg	10.09.17 04:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	119		133		65-144	%	10.09.17 04:58
n-Triacontane	90		106		46-152	%	10.09.17 04:58

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

MB Sample Id: 7632293-1-BLK

Matrix: Solid

LCS Sample Id: 7632293-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632293-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.09	105	2.13	107	55-120	2	20	mg/kg	10.09.17 14:23	
Toluene	<0.0200	2.00	2.11	106	2.15	108	77-120	2	20	mg/kg	10.09.17 14:23	
Ethylbenzene	<0.0200	2.00	2.07	104	2.15	108	77-120	4	20	mg/kg	10.09.17 14:23	
Xylenes, Total	0	6	6.21	104	6.44	107	71-133	4	20	mg/kg	10.09.17 14:23	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	107		102		103		68-120	%	10.09.17 14:23			
a.a.a-Trifluorotoluene	104		96		100		71-121	%	10.09.17 14:23			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030076

MB Sample Id: 7632336-1-BLK

Matrix: Solid

LCS Sample Id: 7632336-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632336-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.12	106	2.12	106	55-120	0	20	mg/kg	10.10.17 10:09	
Toluene	<0.0200	2.00	2.11	106	2.12	106	77-120	0	20	mg/kg	10.10.17 10:09	
Ethylbenzene	<0.0200	2.00	2.08	104	2.11	106	77-120	1	20	mg/kg	10.10.17 10:09	
Xylenes, Total	0	6	6.22	104	6.32	105	71-133	0	20	mg/kg	10.10.17 10:09	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date	Flag		
4-Bromofluorobenzene	103		100		101		68-120	%	10.10.17 10:09			
a.a.a-Trifluorotoluene	100		94		98		71-121	%	10.10.17 10:09			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0195	1.95	2.08	107	2.07	107	54-120	0	25	mg/kg	10.09.17 18:00	
Toluene	<0.0195	1.95	2.25	115	2.26	117	57-120	0	25	mg/kg	10.09.17 18:00	
Ethylbenzene	<0.0195	1.95	2.32	119	2.01	104	58-131	14	25	mg/kg	10.09.17 18:00	
Xylenes, Total	0	5.85	6.94	119	6.66	115	71-133	4	20	mg/kg	10.09.17 18:00	
Surrogate				MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits		Units	Analysis Date	
4-Bromofluorobenzene				108		110		68-120		%	10.09.17 18:00	
a.a.a-Trifluorotoluene				109		111		71-121		%	10.09.17 18:00	

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030076

Parent Sample Id: 564935-005

Matrix: Soil

MS Sample Id: 564935-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564935-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0196	1.96	1.90	97	1.84	96	54-120	3	25	mg/kg	10.10.17 13:48	
Toluene	<0.0196	1.96	2.05	105	1.98	103	57-120	3	25	mg/kg	10.10.17 13:48	
Ethylbenzene	<0.0196	1.96	2.10	107	2.05	107	58-131	2	25	mg/kg	10.10.17 13:48	
Xylenes, Total	0	5.89	6.27	106	6.15	107	71-133	0	20	mg/kg	10.10.17 13:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		106		68-120	%	10.10.17 13:48
a,a,a-Trifluorotoluene	109		109		71-121	%	10.10.17 13:48

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

MB Sample Id: 7632294-1-BLK

Matrix: Solid

LCS Sample Id: 7632294-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632294-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	20.7	104	20.1	101	35-129	3	20	mg/kg	10.09.17 15:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	110		114		97		76-123	%	10.09.17 15:17
a,a,a-Trifluorotoluene	116		108		96		69-120	%	10.09.17 15:17

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030077

MB Sample Id: 7632337-1-BLK

Matrix: Solid

LCS Sample Id: 7632337-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632337-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	22.6	113	24.5	123	35-129	8	20	mg/kg	10.10.17 11:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		111		109		76-123	%	10.10.17 11:05
a,a,a-Trifluorotoluene	110		102		104		69-120	%	10.10.17 11:05

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.85	19.3	16.6	86	14.9	78	35-129	11	20	mg/kg	10.09.17 18:55	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	105		121		76-123	%	10.09.17 18:55
a,a,a-Trifluorotoluene	100		107		69-120	%	10.09.17 18:55

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030077

Parent Sample Id: 564935-005

Matrix: Soil

MS Sample Id: 564935-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564935-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.90	19.5	18.4	94	19.4	98	35-129	5	20	mg/kg	10.10.17 13:48	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		98		76-123	%	10.10.17 13:48
a,a,a-Trifluorotoluene	93		95		69-120	%	10.10.17 13:48



Page 1 Of 1

San Antonio, Texas (210-509-3334)

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

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Phoenix, Arizona (480-355-0900)

Client / Reporting Information				Project Information				Xenco Quote #		Xenco Job #		Matrix Codes							
Company Name / Branch: TRC Environmental Corporation Company Address: 2057 Commerce Drive Midland, TX 79703 Email: lowry@trcsolutions.com Phone No: 432-466-4450				Project Name/Number: Owl 20504 JV-P #005 SWD Project Location: Eddy Co, NM Invoice To: COG Operating C/O Becky Huskell Invoice: Project Contact: Joel Lowry Samplers Name: Joel Lowry				Project Name/Number: Owl 20504 JV-P #005 SWD Project Location: Eddy Co, NM Invoice To: COG Operating C/O Becky Huskell Invoice: Project Contact: Joel Lowry Samplers Name: Joel Lowry		Project Name/Number: Owl 20504 JV-P #005 SWD Project Location: Eddy Co, NM Invoice To: COG Operating C/O Becky Huskell Invoice: Project Contact: Joel Lowry Samplers Name: Joel Lowry		Project Name/Number: Owl 20504 JV-P #005 SWD Project Location: Eddy Co, NM Invoice To: COG Operating C/O Becky Huskell Invoice: Project Contact: Joel Lowry Samplers Name: Joel Lowry							
No.	Field ID / Point of Collection	Sample Depth	Collection	Date	Time	Matrix	# of bottles	Number of preserved bottles					Analytical Information		Matrix Codes				
								HCl	NaOH/Zn	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE				
1	North #1	1		10/3/2017		S	764									X	W = Water		
2	North #2	1		10/3/2017		S	460									X	S = Soil/Sed/Solid		
3	North #3	1		10/3/2017		S	728									X	GW = Ground Water		
4	South #1	1		10/3/2017		S	128									X	DW = Drinking Water		
5	South #2	1		10/3/2017		S	460									X	P = Product		
6	South #3	1		10/3/2017		S	128									X	SL = Sludge		
7	East #1	1		10/3/2017		S	128									X	OW = Ocean/Sea Water		
	West #1	1		10/3/2017		S	201									X	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 ☒ Contract TAT ☐ 3 Day EMERGENCY 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: lowry@trcsolutions.com rhaskell@concho.com sdstanley@trcsolutions.com FED-EX / UPS: Tracking #																			
TAT Starts Day received by Lab, if received by 5:00 pm SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHARGE POSSESSION, INCLUDING COURIER DELIVERY																			
Relinquished by Sampler:				Received By:				Date Time:				Relinquished By:				Date Time:			
1 <i>Joel Lowry</i>				1 <i>Becky Huskell</i>				10/5 5:00				2				2			
Relinquished by:				Received By:				Date Time:				Relinquished By:				Date Time:			
3				3								4				4			
Relinquished by:				Received By:				Date Time:				Relinquished By:				Date Time:			
5				5								5				5			
On Ice				Cooler Temp				Preserved where applicable				Custody Seal #				On Ice			

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.

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2017 05:00:00 PM

Work Order #: 564921

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564935

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co, NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 19-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564935-001	564935-002	564935-003	564935-004	564935-005	
	Field Id:	OS #1 @ 0-6"	OS #1 @ 612"	OS #1 @ 3'	OS #2 @ 0-6"	OS #2 @ 6-12"	
	Depth:	0-6 In	6-12 In	3- ft	0-6 In	6-12 In	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	
BTEX by EPA 8021B	Extracted:	Oct-11-17 10:30	Oct-06-17 16:00	Oct-06-17 16:00	Oct-11-17 10:30	Oct-06-17 16:00	
	Analyzed:	Oct-11-17 20:27	Oct-10-17 19:13	Oct-10-17 19:40	Oct-11-17 23:09	Oct-10-17 13:21	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.0197 0.0197	<0.0175 0.0175	<0.0197 0.0197	<0.0195 0.0195	<0.0199 0.0199	
Toluene		<0.0197 0.0197	<0.0175 0.0175	<0.0197 0.0197	<0.0195 0.0195	<0.0199 0.0199	
Ethylbenzene		<0.0197 0.0197	<0.0175 0.0175	<0.0197 0.0197	<0.0195 0.0195	<0.0199 0.0199	
Xylenes, Total		<0.0197 0.0197	<0.0175 0.0175	<0.0197 0.0197	<0.0195 0.0195	<0.0199 0.0199	
Total BTEX		<0.0197 0.0197	<0.0175 0.0175	<0.0197 0.0197	<0.0195 0.0195	<0.0199 0.0199	
Chloride by EPA 300	Extracted:	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00	
	Analyzed:	Oct-18-17 14:08	Oct-18-17 14:33	Oct-18-17 17:37	Oct-18-17 18:26	Oct-18-17 18:51	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		6600 D 2500	1420 125	<125 125	1780 125	4770 D 2500	
DRO-ORO By SW8015B	Extracted:	Oct-06-17 15:00	Oct-06-17 15:00	Oct-06-17 15:00	Oct-06-17 15:00	Oct-06-17 15:00	
	Analyzed:	Oct-09-17 14:23	Oct-09-17 16:52	Oct-09-17 11:23	Oct-09-17 11:59	Oct-09-17 12:34	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Diesel Range Organics (DRO)		23300 250	118 25.0	<25.0 25.0	2390 50.0	<25.0 25.0	
Oil Range Hydrocarbons (ORO)		5160 250	37.0 25.0	<25.0 25.0	579 50.0	<25.0 25.0	
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-11-17 10:30	Oct-06-17 16:00	Oct-06-17 16:00	Oct-11-17 10:30	Oct-06-17 16:00	
	Analyzed:	Oct-11-17 20:27	Oct-10-17 19:13	Oct-10-17 19:40	Oct-11-17 23:09	Oct-10-17 13:21	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
TPH-GRO		<3.94 3.94	<3.50 3.50	<3.94 3.94	<3.89 3.89	<3.98 3.98	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager

Analytical Report 564935

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

19-OCT-17

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)



19-OCT-17

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

Reference: XENCO Report No(s): **564935**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564935. 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. 564935 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564935

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
OS #1 @ 0-6"	S	10-03-17 00:00	0 - 6 In	564935-001
OS #1 @ 6-12"	S	10-03-17 00:00	6 - 12 In	564935-002
OS #1 @ 3'	S	10-03-17 00:00	3 ft	564935-003
OS #2 @ 0-6"	S	10-03-17 00:00	0 - 6 In	564935-004
OS #2 @ 6-12"	S	10-03-17 00:00	6 - 12 In	564935-005



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 564935

Report Date: 19-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029960 DRO-ORO By SW8015B

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

Samples affected are: 564935-004.

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

Samples affected are: 564935-001,564935-004.

Batch: LBA-3030076 BTEX by EPA 8021B

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

Batch: LBA-3030199 BTEX by EPA 8021B

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

Batch: LBA-3030810 Chloride by EPA 300

Lab Sample ID 564935-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564935-003, -004, -005.

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



Certificate of Analytical Results 564935

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: OS #1 @ 0-6"

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564935-001

Date Collected: 10.03.17 00.00

Sample Depth: 0 - 6 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Seq Number: 3030799

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6600	2500	mg/kg	10.18.17 14.21	D	100

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Seq Number: 3029960

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	23300	250	mg/kg	10.09.17 14.23		10
Oil Range Hydrocarbons (ORO)	PHCG2835	5160	250	mg/kg	10.09.17 14.23		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	13000	%	65-144	10.09.17 14.23	**
n-Triacontane	638-68-6	6140	%	46-152	10.09.17 14.23	**

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.11.17 10.30

Basis: Wet Weight

Seq Number: 3030199

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.11.17 20.27	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	10.11.17 20.27	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.11.17 20.27	U	1
Xylenes, Total	1330-20-7	<0.0197	0.0197	mg/kg	10.11.17 20.27	U	1
Total BTEX		<0.0197	0.0197	mg/kg	10.11.17 20.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.11.17 20.27	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	10.11.17 20.27	



Certificate of Analytical Results 564935

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **OS #1 @ 0-6"**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564935-001

Date Collected: 10.03.17 00.00

Sample Depth: 0 - 6 In

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.11.17 10.30

Basis: Wet Weight

Seq Number: 3030204

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.94	3.94	mg/kg	10.11.17 20.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	76-123	10.11.17 20.27		
a,a,a-Trifluorotoluene	98-08-8	114	%	69-120	10.11.17 20.27		



Certificate of Analytical Results 564935

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: OS #1 @ 612"

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564935-002

Date Collected: 10.03.17 00.00

Sample Depth: 6 - 12 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Seq Number: 3030799

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1420	125	mg/kg	10.18.17 14.33		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Seq Number: 3029960

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	118	25.0	mg/kg	10.09.17 16.52		1
Oil Range Hydrocarbons (ORO)	PHCG2835	37.0	25.0	mg/kg	10.09.17 16.52		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	181	%	65-144	10.09.17 16.52	**
n-Triacontane	638-68-6	130	%	46-152	10.09.17 16.52	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030076

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0175	0.0175	mg/kg	10.10.17 19.13	U	1
Toluene	108-88-3	<0.0175	0.0175	mg/kg	10.10.17 19.13	U	1
Ethylbenzene	100-41-4	<0.0175	0.0175	mg/kg	10.10.17 19.13	U	1
Xylenes, Total	1330-20-7	<0.0175	0.0175	mg/kg	10.10.17 19.13	U	1
Total BTEX		<0.0175	0.0175	mg/kg	10.10.17 19.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.10.17 19.13	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 19.13	



Certificate of Analytical Results 564935

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **OS #1 @ 612"**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564935-002

Date Collected: 10.03.17 00.00

Sample Depth: 6 - 12 In

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.50	3.50	mg/kg	10.10.17 19.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	10.10.17 19.13		
a,a,a-Trifluorotoluene	98-08-8	118	%	69-120	10.10.17 19.13		



Certificate of Analytical Results 564935

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: OS #1 @ 3'

Lab Sample Id: 564935-003

Matrix: Soil

Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030810

Date Prep: 10.17.17 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 17.37	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Date Prep: 10.06.17 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 11.23	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 11.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	123	%	65-144	10.09.17 11.23	
n-Triacontane	638-68-6	113	%	46-152	10.09.17 11.23	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3030076

Date Prep: 10.06.17 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.10.17 19.40	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	10.10.17 19.40	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.10.17 19.40	U	1
Xylenes, Total	1330-20-7	<0.0197	0.0197	mg/kg	10.10.17 19.40	U	1
Total BTEX		<0.0197	0.0197	mg/kg	10.10.17 19.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.10.17 19.40	
a,a,a-Trifluorotoluene	98-08-8	114	%	71-121	10.10.17 19.40	



Certificate of Analytical Results 564935

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **OS #1 @ 3'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564935-003

Date Collected: 10.03.17 00.00

Sample Depth: 3 ft

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.94	3.94	mg/kg	10.10.17 19.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	76-123	10.10.17 19.40		
a,a,a-Trifluorotoluene	98-08-8	119	%	69-120	10.10.17 19.40		



Certificate of Analytical Results 564935

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: OS #2 @ 0-6"

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564935-004

Date Collected: 10.03.17 00.00

Sample Depth: 0 - 6 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Seq Number: 3030810

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1780	125	mg/kg	10.18.17 18.26		5

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Seq Number: 3029960

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	2390	50.0	mg/kg	10.09.17 11.59		2
Oil Range Hydrocarbons (ORO)	PHCG2835	579	50.0	mg/kg	10.09.17 11.59		2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	0	%	65-144	10.09.17 11.59	***
n-Triacontane	638-68-6	800	%	46-152	10.09.17 11.59	**

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.11.17 10.30

Basis: Wet Weight

Seq Number: 3030199

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0195	0.0195	mg/kg	10.11.17 23.09	U	1
Toluene	108-88-3	<0.0195	0.0195	mg/kg	10.11.17 23.09	U	1
Ethylbenzene	100-41-4	<0.0195	0.0195	mg/kg	10.11.17 23.09	U	1
Xylenes, Total	1330-20-7	<0.0195	0.0195	mg/kg	10.11.17 23.09	U	1
Total BTEX		<0.0195	0.0195	mg/kg	10.11.17 23.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	68-120	10.11.17 23.09	
a,a,a-Trifluorotoluene	98-08-8	105	%	71-121	10.11.17 23.09	



Certificate of Analytical Results 564935

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **OS #2 @ 0-6"**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564935-004

Date Collected: 10.03.17 00.00

Sample Depth: 0 - 6 In

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.11.17 10.30

Basis: Wet Weight

Seq Number: 3030204

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.89	3.89	mg/kg	10.11.17 23.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	76-123	10.11.17 23.09		
a,a,a-Trifluorotoluene	98-08-8	108	%	69-120	10.11.17 23.09		



Certificate of Analytical Results 564935

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: OS #2 @ 6-12"

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564935-005

Date Collected: 10.03.17 00.00

Sample Depth: 6 - 12 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Seq Number: 3030810

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4770	2500	mg/kg	10.18.17 19.04	D	100

Analytical Method: DRO-ORO By SW8015B

Prep Method: SW8015P

Tech: PGM

% Moisture:

Analyst: PGM

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Seq Number: 3029960

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 12.34	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 12.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	120	%	65-144	10.09.17 12.34	
n-Triacontane	638-68-6	113	%	46-152	10.09.17 12.34	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030076

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	10.10.17 13.21	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	10.10.17 13.21	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	10.10.17 13.21	U	1
Xylenes, Total	1330-20-7	<0.0199	0.0199	mg/kg	10.10.17 13.21	U	1
Total BTEX		<0.0199	0.0199	mg/kg	10.10.17 13.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.10.17 13.21	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 13.21	



Certificate of Analytical Results 564935

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **OS #2 @ 6-12"**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564935-005

Date Collected: 10.03.17 00.00

Sample Depth: 6 - 12 In

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.98	3.98	mg/kg	10.10.17 13.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	10.10.17 13.21		
a,a,a-Trifluorotoluene	98-08-8	118	%	69-120	10.10.17 13.21		

- 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

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TRC Solutions, Inc
Owl 20504 JV-P #005 SWD**Analytical Method: Chloride by EPA 300**

Seq Number: 3030799

MB Sample Id: 7632829-1-BLK

Matrix: Solid

LCS Sample Id: 7632829-1-BKS

Prep Method: E300P

Date Prep: 10.17.17

LCSD Sample Id: 7632829-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	250	100	238	95	90-110	5	20	mg/kg	10.18.17 09:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3030810

MB Sample Id: 7632845-1-BLK

Matrix: Solid

LCS Sample Id: 7632845-1-BKS

Prep Method: E300P

Date Prep: 10.17.17

LCSD Sample Id: 7632845-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	254	102	243	97	90-110	4	20	mg/kg	10.18.17 17:12	

Analytical Method: Chloride by EPA 300

Seq Number: 3030799

Parent Sample Id: 564921-001

Matrix: Soil

MS Sample Id: 564921-001 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564921-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.18.17 10:12	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030799

Parent Sample Id: 564921-006

Matrix: Soil

MS Sample Id: 564921-006 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564921-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.18.17 12:54	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030810

Parent Sample Id: 564902-001

Matrix: Soil

MS Sample Id: 564902-001 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564902-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.18.17 20:43	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030810

Parent Sample Id: 564935-003

Matrix: Soil

MS Sample Id: 564935-003 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564935-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.18.17 18:02	X

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029960

MB Sample Id: 7632255-1-BLK

Matrix: Solid

LCS Sample Id: 7632255-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632255-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	117	117	105	105	63-139	11	20	mg/kg	10.09.17 03:11	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
Tricosane	107		119		110		65-144	%	10.09.17 03:11			
n-Triacontane	86		88		87		46-152	%	10.09.17 03:11			

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029960

Parent Sample Id: 564921-001

Matrix: Soil

MS Sample Id: 564921-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564921-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	108	108	114	114	63-139	5	20	mg/kg	10.09.17 04:58	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
Tricosane			119		133		65-144	%	10.09.17 04:58			
n-Triacontane			90		106		46-152	%	10.09.17 04:58			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030076

MB Sample Id: 7632336-1-BLK

Matrix: Solid

LCS Sample Id: 7632336-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632336-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.12	106	2.12	106	55-120	0	20	mg/kg	10.10.17 10:09	
Toluene	<0.0200	2.00	2.11	106	2.12	106	77-120	0	20	mg/kg	10.10.17 10:09	
Ethylbenzene	<0.0200	2.00	2.08	104	2.11	106	77-120	1	20	mg/kg	10.10.17 10:09	
Xylenes, Total	0	6	6.22	104	6.32	105	71-133	2	20	mg/kg	10.10.17 10:09	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	103		100		101		68-120	%	10.10.17 10:09			
a,a,a-Trifluorotoluene	100		94		98		71-121	%	10.10.17 10:09			

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030199

MB Sample Id: 7632483-1-BLK

Matrix: Solid

LCS Sample Id: 7632483-1-BKS

Prep Method: SW5030B

Date Prep: 10.11.17

LCSD Sample Id: 7632483-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.18	109	2.16	108	55-120	1	20	mg/kg	10.11.17 17:18	
Toluene	<0.0200	2.00	2.16	108	2.13	107	77-120	1	20	mg/kg	10.11.17 17:18	
Ethylbenzene	<0.0200	2.00	2.10	105	2.09	105	77-120	0	20	mg/kg	10.11.17 17:18	
Xylenes, Total	0	6	6.31	105	6.27	105	71-133	0	20	mg/kg	10.11.17 17:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	101		100		100		68-120	%	10.11.17 17:18
a,a,a-Trifluorotoluene	96		91		94		71-121	%	10.11.17 17:18

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030076

Parent Sample Id: 564935-005

Matrix: Soil

MS Sample Id: 564935-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564935-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0196	1.96	1.90	97	1.84	96	54-120	3	25	mg/kg	10.10.17 13:48	
Toluene	<0.0196	1.96	2.05	105	1.98	103	57-120	3	25	mg/kg	10.10.17 13:48	
Ethylbenzene	<0.0196	1.96	2.10	107	2.05	107	58-131	2	25	mg/kg	10.10.17 13:48	
Xylenes, Total	0	5.89	6.27	106	6.15	107	71-133	2	20	mg/kg	10.10.17 13:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		106		68-120	%	10.10.17 13:48
a,a,a-Trifluorotoluene	109		109		71-121	%	10.10.17 13:48

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030199

Parent Sample Id: 564935-001

Matrix: Soil

MS Sample Id: 564935-001 S

Prep Method: SW5030B

Date Prep: 10.11.17

MSD Sample Id: 564935-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.89	95	1.85	94	54-120	2	25	mg/kg	10.11.17 20:54	
Toluene	<0.0200	2.00	2.01	101	1.96	99	57-120	3	25	mg/kg	10.11.17 20:54	
Ethylbenzene	<0.0200	2.00	2.14	107	2.11	107	58-131	1	25	mg/kg	10.11.17 20:54	
Xylenes, Total	0	6	6.39	107	6.27	106	71-133	0	20	mg/kg	10.11.17 20:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		104		68-120	%	10.11.17 20:54
a,a,a-Trifluorotoluene	107		106		71-121	%	10.11.17 20:54

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030077

MB Sample Id: 7632337-1-BLK

Matrix: Solid

LCS Sample Id: 7632337-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632337-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	22.6	113	24.5	123	35-129	8	20	mg/kg	10.10.17 11:05	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	104		111		109		76-123	%	10.10.17 11:05			
a,a,a-Trifluorotoluene	110		102		104		69-120	%	10.10.17 11:05			

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030204

MB Sample Id: 7632484-1-BLK

Matrix: Solid

LCS Sample Id: 7632484-1-BKS

Prep Method: SW5030B

Date Prep: 10.11.17

LCSD Sample Id: 7632484-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	23.0	115	24.0	120	35-129	4	20	mg/kg	10.11.17 18:12	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	103		108		110		76-123	%	10.11.17 18:12			
a,a,a-Trifluorotoluene	106		101		102		69-120	%	10.11.17 18:12			

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030077

Parent Sample Id: 564935-005

Matrix: Soil

MS Sample Id: 564935-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564935-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.90	19.5	18.4	94	19.4	98	35-129	5	20	mg/kg	10.10.17 13:48	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene			100		98		76-123	%	10.10.17 13:48			
a,a,a-Trifluorotoluene			93		95		69-120	%	10.10.17 13:48			

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030204

Parent Sample Id: 564935-001

Matrix: Soil

MS Sample Id: 564935-001 S

Prep Method: SW5030B

Date Prep: 10.11.17

MSD Sample Id: 564935-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.82	19.1	22.4	117	25.1	127	35-129	11	20	mg/kg	10.11.17 21:48	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene			111		121		76-123	%	10.11.17 21:48			
a,a,a-Trifluorotoluene			98		100		69-120	%	10.11.17 21:48			



Page 1 Of 1

Phoenix, Arizona (480-355-0900)

Midland, Texas (432-704-5251)

www.xenco.com

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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: 10/05/2017 05:00:00 PM

Work Order #: 564935

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017



Certificate of Analysis Summary 564921

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co., NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 19-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564921-001	564921-002	564921-003	564921-004	564921-005	564921-006
	Field Id:	North #1	North #2	North #3	South #1	South #2	South #3
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00	Oct-03-17 00:00
BTEX by EPA 8021B	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 16:00	Oct-06-17 16:00
	Analyzed:	Oct-10-17 01:37	Oct-10-17 02:04	Oct-10-17 02:31	Oct-10-17 02:59	Oct-10-17 16:03	Oct-10-17 16:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.0192 0.0192	<0.0197 0.0197	<0.0199 0.0199	<0.0185 0.0185	<0.0196 0.0196	<0.0197 0.0197
Toluene		<0.0192 0.0192	<0.0197 0.0197	<0.0199 0.0199	<0.0185 0.0185	<0.0196 0.0196	<0.0197 0.0197
Ethylbenzene		<0.0192 0.0192	<0.0197 0.0197	<0.0199 0.0199	<0.0185 0.0185	<0.0196 0.0196	<0.0197 0.0197
Xylenes, Total		<0.0192 0.0192	<0.0197 0.0197	<0.0199 0.0199	<0.0185 0.0185	<0.0196 0.0196	<0.0197 0.0197
Total BTEX		<0.0192 0.0192	<0.0197 0.0197	<0.0199 0.0199	<0.0185 0.0185	<0.0196 0.0196	<0.0197 0.0197
Chloride by EPA 300	Extracted:	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00	Oct-17-17 12:00
	Analyzed:	Oct-18-17 09:48	Oct-18-17 10:37	Oct-18-17 11:02	Oct-18-17 11:27	Oct-18-17 11:52	Oct-18-17 12:29
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<125 125	<125 125	<125 125	<125 125	<125 125	<125 125
DRO-ORO By SW8015B	Extracted:	Oct-06-17 15:00	Oct-06-17 15:00	Oct-06-17 15:00	Oct-06-17 15:00	Oct-06-17 15:00	Oct-06-17 15:00
	Analyzed:	Oct-09-17 04:22	Oct-09-17 06:08	Oct-09-17 06:43	Oct-09-17 07:18	Oct-09-17 07:53	Oct-09-17 08:28
	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	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0	<25.0 25.0
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 14:00	Oct-06-17 16:00	Oct-06-17 16:00
	Analyzed:	Oct-10-17 01:37	Oct-10-17 02:04	Oct-10-17 02:31	Oct-10-17 02:59	Oct-10-17 16:03	Oct-10-17 16:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
TPH-GRO		<3.85 3.85	<3.94 3.94	<3.98 3.98	<3.70 3.70	<3.91 3.91	<3.94 3.94

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 564921

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co., NM

Date Received in Lab: Thu Oct-05-17 05:00 pm

Report Date: 19-OCT-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	564921-007	564921-008				
	Field Id:	East #1	West #1				
	Depth:						
	Matrix:	SOIL	SOIL				
	Sampled:	Oct-03-17 00:00	Oct-03-17 00:00				
BTEX by EPA 8021B	Extracted:	Oct-06-17 16:00	Oct-06-17 16:00				
	Analyzed:	Oct-10-17 16:58	Oct-10-17 17:25				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.0197 0.0197	<0.0189 0.0189				
Toluene		<0.0197 0.0197	<0.0189 0.0189				
Ethylbenzene		<0.0197 0.0197	<0.0189 0.0189				
Xylenes, Total		<0.0197 0.0197	<0.0189 0.0189				
Total BTEX		<0.0197 0.0197	<0.0189 0.0189				
Chloride by EPA 300	Extracted:	Oct-17-17 12:00	Oct-17-17 12:00				
	Analyzed:	Oct-18-17 13:19	Oct-18-17 13:43				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		1370 D 125	9470 D 2500				
DRO-ORO By SW8015B	Extracted:	Oct-06-17 15:00	Oct-06-17 15:00				
	Analyzed:	Oct-09-17 09:03	Oct-09-17 09:39				
	Units/RL:	mg/kg RL	mg/kg RL				
Diesel Range Organics (DRO)		<25.0 25.0	<25.0 25.0				
Oil Range Hydrocarbons (ORO)		<25.0 25.0	<25.0 25.0				
TPH GRO by EPA 8015 Mod.	Extracted:	Oct-06-17 16:00	Oct-06-17 16:00				
	Analyzed:	Oct-10-17 16:58	Oct-10-17 17:25				
	Units/RL:	mg/kg RL	mg/kg RL				
TPH-GRO		<3.94 3.94	<3.77 3.77				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
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Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Analytical Report 564921

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

19-OCT-17

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)



19-OCT-17

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

Reference: XENCO Report No(s): **564921**
Owl 20504 JV-P #005 SWD
Project Address: Eddy 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) 564921. 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. 564921 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North #1	S	10-03-17 00:00		564921-001
North #2	S	10-03-17 00:00		564921-002
North #3	S	10-03-17 00:00		564921-003
South #1	S	10-03-17 00:00		564921-004
South #2	S	10-03-17 00:00		564921-005
South #3	S	10-03-17 00:00		564921-006
East #1	S	10-03-17 00:00		564921-007
West #1	S	10-03-17 00:00		564921-008



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 564921

Report Date: 19-OCT-17

Date Received: 10/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029991 BTEX by EPA 8021B

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

Batch: LBA-3030076 BTEX by EPA 8021B

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

Batch: LBA-3030799 Chloride by EPA 300

Lab Sample ID 564921-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564921-001, -002, -003, -004, -005, -006, -007, -008.

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



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #1**
Lab Sample Id: 564921-001

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 09.48	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 04.22	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 04.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	10.09.17 04.22	
n-Triacontane	638-68-6	98	%	46-152	10.09.17 04.22	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029991

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	10.10.17 01.37	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	10.10.17 01.37	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	10.10.17 01.37	U	1
Xylenes, Total	1330-20-7	<0.0192	0.0192	mg/kg	10.10.17 01.37	U	1
Total BTEX		<0.0192	0.0192	mg/kg	10.10.17 01.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.10.17 01.37	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	10.10.17 01.37	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #1**
Lab Sample Id: 564921-001

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.85	3.85	mg/kg	10.10.17 01.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	76-123	10.10.17 01.37		
a,a,a-Trifluorotoluene	98-08-8	119	%	69-120	10.10.17 01.37		



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #2**
Lab Sample Id: 564921-002

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 10.37	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 06.08	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 06.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	118	%	65-144	10.09.17 06.08	
n-Triacontane	638-68-6	101	%	46-152	10.09.17 06.08	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029991

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.10.17 02.04	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	10.10.17 02.04	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.10.17 02.04	U	1
Xylenes, Total	1330-20-7	<0.0197	0.0197	mg/kg	10.10.17 02.04	U	1
Total BTEX		<0.0197	0.0197	mg/kg	10.10.17 02.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.10.17 02.04	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 02.04	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #2**
Lab Sample Id: 564921-002

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.94	3.94	mg/kg	10.10.17 02.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	76-123	10.10.17 02.04		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.10.17 02.04		



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #3**
Lab Sample Id: 564921-003

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 11.02	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 06.43	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 06.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	123	%	65-144	10.09.17 06.43	
n-Triacontane	638-68-6	105	%	46-152	10.09.17 06.43	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029991

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	10.10.17 02.31	U	1
Toluene	108-88-3	<0.0199	0.0199	mg/kg	10.10.17 02.31	U	1
Ethylbenzene	100-41-4	<0.0199	0.0199	mg/kg	10.10.17 02.31	U	1
Xylenes, Total	1330-20-7	<0.0199	0.0199	mg/kg	10.10.17 02.31	U	1
Total BTEX		<0.0199	0.0199	mg/kg	10.10.17 02.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.10.17 02.31	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 02.31	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **North #3**
Lab Sample Id: 564921-003

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.98	3.98	mg/kg	10.10.17 02.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	76-123	10.10.17 02.31		
a,a,a-Trifluorotoluene	98-08-8	119	%	69-120	10.10.17 02.31		



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TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #1**
Lab Sample Id: 564921-004

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 11.27	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 07.18	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 07.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	117	%	65-144	10.09.17 07.18	
n-Triacontane	638-68-6	100	%	46-152	10.09.17 07.18	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3029991

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0185	0.0185	mg/kg	10.10.17 02.59	U	1
Toluene	108-88-3	<0.0185	0.0185	mg/kg	10.10.17 02.59	U	1
Ethylbenzene	100-41-4	<0.0185	0.0185	mg/kg	10.10.17 02.59	U	1
Xylenes, Total	1330-20-7	<0.0185	0.0185	mg/kg	10.10.17 02.59	U	1
Total BTEX		<0.0185	0.0185	mg/kg	10.10.17 02.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.10.17 02.59	
a,a,a-Trifluorotoluene	98-08-8	111	%	71-121	10.10.17 02.59	



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TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #1**
Lab Sample Id: 564921-004

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 14.00

Basis: Wet Weight

Seq Number: 3030009

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.70	3.70	mg/kg	10.10.17 02.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	10.10.17 02.59		
a,a,a-Trifluorotoluene	98-08-8	119	%	69-120	10.10.17 02.59		



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TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #2**
Lab Sample Id: 564921-005

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 11.52	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 07.53	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 07.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	10.09.17 07.53	
n-Triacontane	638-68-6	100	%	46-152	10.09.17 07.53	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3030076

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	10.10.17 16.03	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	10.10.17 16.03	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	10.10.17 16.03	U	1
Xylenes, Total	1330-20-7	<0.0196	0.0196	mg/kg	10.10.17 16.03	U	1
Total BTEX		<0.0196	0.0196	mg/kg	10.10.17 16.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	68-120	10.10.17 16.03	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 16.03	



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TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #2**
Lab Sample Id: 564921-005

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.91	3.91	mg/kg	10.10.17 16.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	76-123	10.10.17 16.03		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.10.17 16.03		



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TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #3**
Lab Sample Id: 564921-006

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<125	125	mg/kg	10.18.17 12.29	U	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 08.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 08.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	10.09.17 08.28	
n-Triacontane	638-68-6	100	%	46-152	10.09.17 08.28	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3030076

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.10.17 16.31	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	10.10.17 16.31	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.10.17 16.31	U	1
Xylenes, Total	1330-20-7	<0.0197	0.0197	mg/kg	10.10.17 16.31	U	1
Total BTEX		<0.0197	0.0197	mg/kg	10.10.17 16.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	68-120	10.10.17 16.31	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 16.31	



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TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **South #3**
Lab Sample Id: 564921-006

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.94	3.94	mg/kg	10.10.17 16.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	76-123	10.10.17 16.31		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.10.17 16.31		



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **East #1**
Lab Sample Id: 564921-007

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1370	125	mg/kg	10.18.17 13.31	D	5

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 09.03	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 09.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	121	%	65-144	10.09.17 09.03	
n-Triacontane	638-68-6	102	%	46-152	10.09.17 09.03	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3030076

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0197	0.0197	mg/kg	10.10.17 16.58	U	1
Toluene	108-88-3	<0.0197	0.0197	mg/kg	10.10.17 16.58	U	1
Ethylbenzene	100-41-4	<0.0197	0.0197	mg/kg	10.10.17 16.58	U	1
Xylenes, Total	1330-20-7	<0.0197	0.0197	mg/kg	10.10.17 16.58	U	1
Total BTEX		<0.0197	0.0197	mg/kg	10.10.17 16.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.10.17 16.58	
a,a,a-Trifluorotoluene	98-08-8	112	%	71-121	10.10.17 16.58	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **East #1**
Lab Sample Id: 564921-007

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.94	3.94	mg/kg	10.10.17 16.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	10.10.17 16.58		
a,a,a-Trifluorotoluene	98-08-8	117	%	69-120	10.10.17 16.58		



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TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **West #1**
Lab Sample Id: 564921-008

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: Chloride by EPA 300

Tech: RNL

Analyst: RNL

Seq Number: 3030799

Prep Method: E300P

% Moisture:

Date Prep: 10.17.17 12.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9470	2500	mg/kg	10.18.17 13.56	D	100

Analytical Method: DRO-ORO By SW8015B

Tech: PGM

Analyst: PGM

Seq Number: 3029960

Prep Method: SW8015P

% Moisture:

Date Prep: 10.06.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Diesel Range Organics (DRO)	C10C28DRO	<25.0	25.0	mg/kg	10.09.17 09.39	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<25.0	25.0	mg/kg	10.09.17 09.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Tricosane	638-67-5	119	%	65-144	10.09.17 09.39	
n-Triacontane	638-68-6	96	%	46-152	10.09.17 09.39	

Analytical Method: BTEX by EPA 8021B

Tech: MIT

Analyst: MIT

Seq Number: 3030076

Prep Method: SW5030B

% Moisture:

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0189	0.0189	mg/kg	10.10.17 17.25	U	1
Toluene	108-88-3	<0.0189	0.0189	mg/kg	10.10.17 17.25	U	1
Ethylbenzene	100-41-4	<0.0189	0.0189	mg/kg	10.10.17 17.25	U	1
Xylenes, Total	1330-20-7	<0.0189	0.0189	mg/kg	10.10.17 17.25	U	1
Total BTEX		<0.0189	0.0189	mg/kg	10.10.17 17.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	68-120	10.10.17 17.25	
a,a,a-Trifluorotoluene	98-08-8	113	%	71-121	10.10.17 17.25	



Certificate of Analytical Results 564921

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **West #1**
Lab Sample Id: 564921-008

Matrix: Soil
Date Collected: 10.03.17 00.00

Date Received: 10.05.17 17.00

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 10.06.17 16.00

Basis: Wet Weight

Seq Number: 3030077

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<3.77	3.77	mg/kg	10.10.17 17.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	76-123	10.10.17 17.25		
a,a,a-Trifluorotoluene	98-08-8	118	%	69-120	10.10.17 17.25		

- 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

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(602) 437-0330	



QC Summary 564921

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: Chloride by EPA 300

Seq Number: 3030799

MB Sample Id: 7632829-1-BLK

Matrix: Solid

LCS Sample Id: 7632829-1-BKS

Prep Method: E300P

Date Prep: 10.17.17

LCSD Sample Id: 7632829-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<25.0	250	250	100	238	95	90-110	5	20	mg/kg	10.18.17 09:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3030799

Parent Sample Id: 564921-001

Matrix: Soil

MS Sample Id: 564921-001 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564921-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.18.17 10:12	X

Analytical Method: Chloride by EPA 300

Seq Number: 3030799

Parent Sample Id: 564921-006

Matrix: Soil

MS Sample Id: 564921-006 S

Prep Method: E300P

Date Prep: 10.17.17

MSD Sample Id: 564921-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1250	250	<1250	0	<1250	0	80-120	NC	20	mg/kg	10.18.17 12:54	X

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029960

MB Sample Id: 7632255-1-BLK

Matrix: Solid

LCS Sample Id: 7632255-1-BKS

Prep Method: SW8015P

Date Prep: 10.06.17

LCSD Sample Id: 7632255-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	117	117	105	105	63-139	11	20	mg/kg	10.09.17 03:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Tricosane	107		119		110		65-144	%	10.09.17 03:11
n-Triacontane	86		88		87		46-152	%	10.09.17 03:11

Analytical Method: DRO-ORO By SW8015B

Seq Number: 3029960

Parent Sample Id: 564921-001

Matrix: Soil

MS Sample Id: 564921-001 S

Prep Method: SW8015P

Date Prep: 10.06.17

MSD Sample Id: 564921-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diesel Range Organics (DRO)	<25.0	100	108	108	114	114	63-139	5	20	mg/kg	10.09.17 04:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Tricosane	119		133		65-144	%	10.09.17 04:58
n-Triacontane	90		106		46-152	%	10.09.17 04:58

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

MB Sample Id: 7632293-1-BLK

Matrix: Solid

LCS Sample Id: 7632293-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632293-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.09	105	2.13	107	55-120	2	20	mg/kg	10.09.17 14:23	
Toluene	<0.0200	2.00	2.11	106	2.15	108	77-120	2	20	mg/kg	10.09.17 14:23	
Ethylbenzene	<0.0200	2.00	2.07	104	2.15	108	77-120	4	20	mg/kg	10.09.17 14:23	
Xylenes, Total	0	6	6.21	104	6.44	107	71-133	4	20	mg/kg	10.09.17 14:23	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
4-Bromofluorobenzene	107		102		103		68-120	%	10.09.17 14:23			
a.a.a-Trifluorotoluene	104		96		100		71-121	%	10.09.17 14:23			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030076

MB Sample Id: 7632336-1-BLK

Matrix: Solid

LCS Sample Id: 7632336-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632336-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.12	106	2.12	106	55-120	0	20	mg/kg	10.10.17 10:09	
Toluene	<0.0200	2.00	2.11	106	2.12	106	77-120	0	20	mg/kg	10.10.17 10:09	
Ethylbenzene	<0.0200	2.00	2.08	104	2.11	106	77-120	1	20	mg/kg	10.10.17 10:09	
Xylenes, Total	0	6	6.22	104	6.32	105	71-133	0	20	mg/kg	10.10.17 10:09	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date	Flag		
4-Bromofluorobenzene	103		100		101		68-120	%	10.10.17 10:09			
a.a.a-Trifluorotoluene	100		94		98		71-121	%	10.10.17 10:09			

Analytical Method: BTEX by EPA 8021B

Seq Number: 3029991

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0195	1.95	2.08	107	2.07	107	54-120	0	25	mg/kg	10.09.17 18:00	
Toluene	<0.0195	1.95	2.25	115	2.26	117	57-120	0	25	mg/kg	10.09.17 18:00	
Ethylbenzene	<0.0195	1.95	2.32	119	2.01	104	58-131	14	25	mg/kg	10.09.17 18:00	
Xylenes, Total	0	5.85	6.94	119	6.66	115	71-133	4	20	mg/kg	10.09.17 18:00	
Surrogate				MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits		Units	Analysis Date	
4-Bromofluorobenzene				108		110		68-120		%	10.09.17 18:00	
a.a.a-Trifluorotoluene				109		111		71-121		%	10.09.17 18:00	

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: BTEX by EPA 8021B

Seq Number: 3030076

Parent Sample Id: 564935-005

Matrix: Soil

MS Sample Id: 564935-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564935-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0196	1.96	1.90	97	1.84	96	54-120	3	25	mg/kg	10.10.17 13:48	
Toluene	<0.0196	1.96	2.05	105	1.98	103	57-120	3	25	mg/kg	10.10.17 13:48	
Ethylbenzene	<0.0196	1.96	2.10	107	2.05	107	58-131	2	25	mg/kg	10.10.17 13:48	
Xylenes, Total	0	5.89	6.27	106	6.15	107	71-133	0	20	mg/kg	10.10.17 13:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	108		106		68-120	%	10.10.17 13:48
a,a,a-Trifluorotoluene	109		109		71-121	%	10.10.17 13:48

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

MB Sample Id: 7632294-1-BLK

Matrix: Solid

LCS Sample Id: 7632294-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632294-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	20.7	104	20.1	101	35-129	3	20	mg/kg	10.09.17 15:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	110		114		97		76-123	%	10.09.17 15:17
a,a,a-Trifluorotoluene	116		108		96		69-120	%	10.09.17 15:17

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030077

MB Sample Id: 7632337-1-BLK

Matrix: Solid

LCS Sample Id: 7632337-1-BKS

Prep Method: SW5030B

Date Prep: 10.06.17

LCSD Sample Id: 7632337-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<4.00	20.0	22.6	113	24.5	123	35-129	8	20	mg/kg	10.10.17 11:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		111		109		76-123	%	10.10.17 11:05
a,a,a-Trifluorotoluene	110		102		104		69-120	%	10.10.17 11:05

TRC Solutions, Inc
Owl 20504 JV-P #005 SWD

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030009

Parent Sample Id: 564897-005

Matrix: Soil

MS Sample Id: 564897-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564897-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.85	19.3	16.6	86	14.9	78	35-129	11	20	mg/kg	10.09.17 18:55	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	105		121		76-123	%	10.09.17 18:55
a,a,a-Trifluorotoluene	100		107		69-120	%	10.09.17 18:55

Analytical Method: TPH GRO by EPA 8015 Mod.

Seq Number: 3030077

Parent Sample Id: 564935-005

Matrix: Soil

MS Sample Id: 564935-005 S

Prep Method: SW5030B

Date Prep: 10.06.17

MSD Sample Id: 564935-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<3.90	19.5	18.4	94	19.4	98	35-129	5	20	mg/kg	10.10.17 13:48	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		98		76-123	%	10.10.17 13:48
a,a,a-Trifluorotoluene	93		95		69-120	%	10.10.17 13:48



Page 1 Of 1

San Antonio, Texas (210-509-3334)

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Phoenix, Arizona (480-355-0900)

Client / Reporting Information				Project Information				Xenco Quote #		Xenco Job #		Matrix Codes						
Company Name / Branch: TRC Environmental Corporation				Project Name/Number: Owl 20504 JV-P #005 SWD								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						
Company Address: 2057 Commerce Drive Midland, TX 79703				Project Location: Eddy Co, NM														
Email: jlowry@trcsolutions.com				Invoice To: COG Operating C/O Becky Haskell														
Phone No: 432-466-4450				Invoice:														
Project Contact: Joel Lowry																		
Samplers Name Joel Lowry																		
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn	HNO3	H2SO4	NaOH	NaHSO4	MeOH	NONE	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Field Comments
1	North #1	1	10/3/2017		S	264									X	X		
2	North #2	1	10/3/2017		S	400									X	X		
3	North #3	1	10/3/2017		S	124									X	X		
4	South #1	1	10/3/2017		S	101									X	X		
5	South #2	1	10/3/2017		S	400									X	X		
6	South #3	1	10/3/2017		S	101									X	X		
7	East #1	1	10/3/2017		S	101									X	X		
	West #1	1	10/3/2017		S	101									X	X		
Turnaround Time (Business days)																		
Data Deliverable Information																		
Level I Std QC ☐ 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																		
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																		
Relinquished by Sampler: Date Time: 10/5 5:00 PM Received By: [Signature] Date Time: 10/5 5:00 PM																		
Relinquished by: Date Time: 10/5 5:00 PM Received By: [Signature] Date Time: 10/5 5:00 PM																		
Relinquished by: Date Time: 10/5 5:00 PM Received By: [Signature] Date Time: 10/5 5:00 PM																		
Relinquished by: Date Time: 10/5 5:00 PM Received By: [Signature] Date Time: 10/5 5:00 PM																		
On Ice Cooler Temp. Therm. Corr. Factor																		

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 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.

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[illegible][illegible]



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 10/05/2017 05:00:00 PM

Work Order #: 564921

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)?	4.2
#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
Brenda Ward

Date: 10/06/2017

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 10/06/2017

Photographic Documentation



Photo 1: View of portion of the affected production pad, facing south.



Photo 2: View of portion of the affected production pad, facing northeast.

Photographic Documentation



Photo 3: View of portion of the affected pasture, facing north.



Photo 4: View of portion of the affected pasture.

Photographic Documentation



Photo 5: View of test trench location within the affected pasture.



Photo 6: Representative view of hydrocarbon stained areas within the affected pasture.



Photo 7: View of gypsum layer present beneath the release site.



Photo 8: View of hydrocarbon stained area adjacent to viable vegetation.

NM OIL CONSERVATION

ARTESIA DISTRICT

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

AUG 23 2017

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

NAB1724033483

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: Owl 20504 JV-P #005 SWD	Facility Type: SWD

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-35435
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LOCATION OF RELEASE

Unit Letter J	Section 18	Township 26S	Range 27E	Feet from the 2,310	North/South Line South	Feet from the 2,310	East/West Line East	County Eddy
------------------	---------------	-----------------	--------------	------------------------	---------------------------	------------------------	------------------------	----------------

Latitude 32.0414886 Longitude -104.2282181

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 70 bbl. Oil & 500 bbl. PW	Volume Recovered: 40 bbl. Oil & 600 bbl. Water
Source of Release: Lightning Strike	Date and Hour of Occurrence: August 21, 2017 3:30 am	Date and Hour of Discovery: August 21, 2017 5:30 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Weaver - NMOCD / Ms. Tucker - BLM	
By Whom? Aaron Lieb	Date and Hour: August 21, 2017 5:21 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release occurred when lightning struck the facility. The facility and equipment were a total loss. Recovery amounts reflect produced water, rain water and water used by the fire department.

Describe Area Affected and Cleanup Action Taken.*

The release impacted the location as well as the pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate 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: <i>Rebecca Haskell</i>	OIL CONSERVATION DIVISION	
Printed Name: Rebecca Haskell	Approved by Environmental Specialist: <i>Crystal W...</i>	
Title: Senior HSE Coordinator	Approval Date: 8/28/17	Expiration Date: N/A
E-mail Address: rhaskell@concho.com	Conditions of Approval: see attached	Attached: <i>4357</i>
Date: August 23, 2017 Phone: 432-683-7443		

* Attach Additional Sheets If Necessary

8/28/17 AB