



Charles Beauvais
ConocoPhillips
2208 W Main St
Artesia, New Mexico 88210
575-988-2043

November 28, 2022

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Subject: **OWL 250504 JV-P #005 SWD Release**
Unit Letter J, Section 18, Township 26 South, Range 27 East
Eddy County, New Mexico
Incident ID nAB1724033483
2RP-4357

Sir or Madam:

A Closure Request (dated April 2019) for the subject line 2RP-4357 (ID nAB1724033483) release was drafted by TRC Environmental Corporation and previously submitted to the NMOCD on behalf of ConocoPhillips (COP). The document was uploaded and submitted to the NMOCD via CentreStack, a Secure Access & File Sharing platform, at the direction of Mr. Bradford Billings, NMOCD.

Based upon recent NMOCD email correspondence from Ashley Maxwell, NMOCD, received on November 23, 2022, in order to close this incident, a new C-141 Closure form must be signed and submitted to the fee application portal along with this previously assembled report.

Thus, enclosed is a copy of the amended Remediation Summary and Risk-Based Site Closure Request for the subject line incident. The attached amended Closure Request will be submitted via the NMOCD Fee Application portal, as requested.

If you have any questions, please contact me at 575-988-2043.

Sincerely,


Charles Beauvais
Senior Environmental Engineer | Environmental Operations | ConocoPhillips

cc: Site Files

Attachments: 

C-141 Page 6

Regulatory Correspondence

Remediation Summary and Risk-Based Site Closure Request, 2RP-4357

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: Charles R. Beauvais II Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Ashley Maxwell Date: _____

Printed Name: _____ Title: _____

Llull, Christian

Subject: FW: [EXTERNAL]NAB1724033483 Missing C-141
Attachments: nAB1724033483 OWL 250504 JV-P #005 SWD(2RP-4357).pdf

From: Maxwell, Ashley, EMNRD <Ashley.Maxwell@emnrd.nm.gov>
Sent: Wednesday, November 23, 2022 9:02 AM
To: Beauvais, Charles R <Charles.R.Beauvais@conocophillips.com>
Subject: [EXTERNAL]NAB1724033483 Missing C-141

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning!

I came across this historical report and upon reviewing it, the report is missing the operator signed closure portion of the C-141. Can you attach the complete C-141 requesting closure to the attached report and resubmit the report via the OCD permitting portal?

Let me know if you have any questions.

Thanks,
Ashley

Ashley Maxwell • Environmental Specialist
Environmental Bureau Projects Group
EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87110
505.635.5000 | Ashley.Maxwell@emnrd.nm.gov
<http://www.emnrd.state.nm.us/OCD/>



REMEDIATION SUMMARY AND RISK-BASED SITE CLOSURE REQUEST

COG Operating, LLC
Owl 20504 JV-P #005 SWD
Eddy County, New Mexico
Unit Letter "J", Section 18, Township 26 South, Range 27 East
Latitude 32.0414886° North, Longitude 104.2282181° West
NMOCD Reference No. 2RP-4357

Prepared For:

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

Prepared By:

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

APRIL 2019


Jared E. Stoffel, PG
TRC Environmental Corp


Curt D. Stanley
TRC Environmental Corp

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Appendix A – Laboratory Analytical Reports

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Appendix C – Release Notification and Corrective Action (Form C-141)

INTRODUCTION & BACKGROUND INFORMATION

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG), has prepared this *Remediation Summary and Risk-Based Soil Closure Request* for the Release Site known as the Owl 20504 JW-P #005 SWD. The legal description of the Site is Unit Letter "J", Section 18, Township 26 South, Range 27 East, in Eddy County, New Mexico. The subject property is administered by Bureau of Land Management (BLM). The GPS coordinates for the Site are N 32.0414886° W 104.2282181°. A Site Location Map is provided as **Figure 1**.

On August 21, 2017, the COG Owl 20504 JV-P #005 Salt Water Disposal Facility 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. Recovered water reflected produced water, rain water, and water used by the fire department. The Release affected an area on the caliche well pad measuring approximately twenty-seven thousand (27,000) square feet (sq. ft.) and approximately fifty thousand (50,000) sq. ft. of adjacent pasture land. When the Release was discovered, 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. A copy of the Form C-141 is provided in Appendix C.

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 18, Township 26 South, Range 27 East. A reference map utilized by the NMOCD Artesia 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 which was prepared for NMOCD reference 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.

The NMOCD guidelines indicate the Owl 20504 JW-P #005 SWD Release Site has a ranking score of ten (10). Recommended Remediation Action Levels (RRAL) for a site with a ranking score of ten (10) points are as follows:

- Benzene – 10 mg/kg
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) – 50 mg/kg
- Total Petroleum Hydrocarbons (TPH) – 1,000 mg/kg
- Chloride – 600 mg/kg

INITIAL INVESTIGATION AND PROPOSED REMEDIATION WORKPLAN

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 in 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. Soil sample locations from the initial investigation are depicted in **Figure 2 – Site and Sample Location Map – Initial Investigation**. Laboratory analytical results are summarized in **Table 1 - Concentrations of Benzene, BTEX, TPH, and Chloride in Soil**. Laboratory analytical reports are provided in Appendix A.

Laboratory analytical results from soil samples collected on the caliche production pad indicated soil was not affected above the NMOCD RRAL for chloride deeper than 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 indicated a polyurethane liner was installed during an approved risk-based closure related to 2RP-1599. In addition, evidence 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 integrity of the liner. Please reference the 2RP-1599 *Closure Report for the COG Operating, LLC., 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, viable vegetation was noted within the release margins. Limited hydrocarbon staining was observed in shallow soils. In an effort to characterize 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 applicable 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.

On December 4, 2017, COG submitted a *Soil Investigation Summary and Proposed Remediation Workplan (Workplan)* to the NMOCD and BLM, proposing the following remediation activities designed to advance the Site toward an NMOCD and BLM 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 were encountered, whichever is less. COG maintains additional excavation may compromise the existing remediation controls.
- 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 the integrity of the liner 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 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 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 of at least 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.

The *Workplan* was subsequently approved on March 6, 2018.

SUMMARY OF SOIL REMEDIATION ACTIVITIES

On July 18, 2018, remediation activities commenced at the Release Site. As per the approved Work Plan, impacted soil within the release margins was excavated and stockpiled on-site, atop an impermeable liner, pending final disposition. The floor of the excavation was advanced to a depth of approximately three (3) feet bgs in the impacted area on the caliche pad, approximately

eighteen (18) inches bgs in the western pasture area and the areas represented by sample locations OS-1 and OS-2, and to approximately twelve (12) inches bgs in the remainder of the impacted area in the pasture.

On July 25, 2018, twenty-six (26) confirmation soil samples (PA-SSW, PA-NSW, PA-ESW, PA-WSW, PA-FL @ 18", PB-SSW, PB-NSW, PB-ESW, PB-WSW, PB-FL @ 18", PC-SSW, PC-NSW, PC-ESW, PC-WSW, PC-FL @ 18", PD-SSW, PD-NSW, PE-SSW, PE-NSW, PE-ESW, PE-FL @ 18", PF-SSW, PF-NSW, PG SSW-1, PG SSW-2, and PG NSW-1) were collected from the western pasture areas and were submitted to the laboratory for TPH, BTEX, and chloride analyses. A review of the laboratory analytical results indicated all samples collected on July 25, 2018 were below the NMOCD regulatory guidelines for TPH, BTEX, and chloride concentrations, with the exception of PC-WSW, which was above the NMOCD regulatory guidelines for chloride concentrations. Following a review of the pasture analytical data, the area represented by soil sample PC-WSW was further excavated horizontally to the west and vertically to a depth of approximately twenty-four (24) inches bgs.

On July 30, 2018, twelve (12) confirmation soil samples (WP NSW @ 1.5', WP ESW-1 @ 1.5', WP ESW-2 @ 1.5', WP ESW-3 @ 1.5', WP ESW-4 @ 1.5', WP ESW-5 @ 1.5', WP WSW-1 @ 1.5', WP WSW-2 @ 1.5', WP WSW-3 @ 1.5', WP WSW-4 @ 1.5', WP WSW-5 @ 1.5', WP WSW-6 @ 1.5') were collected from the impacted area on the pad which was excavated to approximately thirty-six (36) inches bgs and were submitted to the laboratory for TPH, BTEX, and chloride analyses. A review of the laboratory analytical results indicated all the samples collected on July 30, 2018 were below NMOCD regulatory guidelines for TPH, BTEX, and chloride concentrations. Additionally, on July 30, 2018, hauling of backfill material to the Site and impacted soil from the Site to the Red Bluff R360 facility began. Backfill activities with the non-impacted, locally sourced backfill material commenced when a review of the laboratory analytical results indicated an area was below all applicable NMOCD regulatory guidelines.

On July 31, 2018, twelve (12) confirmation soil samples (EH-1 @ 6", EH-2 @ 6", SH-1 @ 6", SH-2 @ 6", SH-3 @ 6", SH-4 @ 6", SH-5 @ 6", NH-1 @ 6", NH-2 @ 6", NH-3 @ 6", NH-4 @ 6", and NH-5 @ 6") from the pasture areas which was excavated to approximately twelve (12) inches bgs were collected and submitted to the laboratory for TPH, BTEX, and chloride analyses. Additionally, one (1) confirmation soil sample (PG NSW-2 @ 9") was collected from the pasture area excavated to approximately eighteen (18) inches bgs. A review of the laboratory analytical results indicated all soil samples collected on July 31, 2018 were below NMOCD regulatory guidelines for TPH, BTEX, and chloride concentrations with the exception of NH-4 @ 6", which was above the NMOCD regulatory guidelines for chloride. After review of analytical data, the lateral extent of the excavation to twelve (12) inches bgs was further excavated to the north.

On August 16, 2018, two (2) confirmation soil samples (PC WSW @ 1' and NH-4 b @ 6") were collected from the pasture area which warranted additional excavation and were submitted to the laboratory for chloride analysis. The soil samples include PC WSW @ 1', at which the excavation was laterally and vertically advanced in the area represented by sample point PC WSW, and NH-4 b @ 6", at which the excavation was laterally advanced from the area represented by sample point NH-4 @ 6". Both soil samples were below NMOCD regulatory guidelines for chloride concentrations.

On August 22, 2018, six (6) confirmation soil samples (SSW #8 @ 3', SSW #10 @ 3', WSW #5 @ 3', WSW #6 @ 3', WSW H @ 3', and SSW H @ 3') were collected from the southeast area of the pad that had been excavated to approximately three (3) feet bgs and were submitted to the laboratory for TPH, BTEX, and chloride analyses. A review of laboratory analytical results indicated all samples submitted on August 22, 2018 were below NMOCD regulatory guidelines for TPH, BTEX, and chloride concentrations.

On September 18, 2018, two (2) additional confirmation soil samples (W. TP Floor @ 3' and S. TP Floor @ 3.5') were collected from the floor of the southeast area of the pad which had been excavated to approximately three (3) to three and one half (3.5) feet bgs and were submitted to the laboratory for chloride analysis. A review of laboratory analytical results indicated both samples were below NMOCD regulatory guidelines for chloride concentrations. A final review of the laboratory analytical results indicated the excavation was complete and all sampled areas were below the applicable NMOCD regulatory guidelines. The final dimensions of the excavation were approximately seven hundred and thirty (730) feet long and three hundred and fifty (350) feet wide. Three hundred and sixty-eight (368) loads, approximately six thousand two hundred and fifty six (6,256) cubic yards, of impacted soil were transported from the Site to the Red Bluff R360 facility.

On October 17, 2018, a 20-millimeter polyurethane liner was installed in the production pad area, which was excavated to approximately three (3) feet bgs. The liner extended over the previous risk-based closure and part of the drilling reserve pit. The liner was cushioned by an approximately six (6) inch sand layer below the liner and an approximately six (6) inch sand layer above the liner. Following the installation of the liner, the remainder of the excavation was backfilled with non-impacted, locally sourced material and returned to grade.

On March 6, 2019, one (1) additional confirmation sample (PC-FL-2 @ 24") was collected from the base of the excavated area in the area represented by sample point TT-7, as evidenced by the transition from imported backfill material to 'native' soil. The soil sample was collected to ensure the chloride concentrations represented in sample TT-7 @ 2' were removed during the excavation activities. Analytical results indicated confirmation soil sample PC-FL-2 @ 24", which was collected utilizing a hand-auger at the 24-27" interval, exhibited a chloride concentration below NMOCD regulatory guidelines for chlorides.

SITE CLOSURE REQUEST

Remediation activities were conducted in accordance with the NMOCD-approved Work Plan. Impacted soil within the release margins was excavated and transported to an approved disposal facility. Based on laboratory analytical results and field activities conducted to date, TRC recommends COG provide copies of this Remediation Summary and Risk-Based Soil Closure Request to the NMOCD and BLM and request closure status to the Owl 250504 JV-P #005 SWD incident.

LIMITATIONS

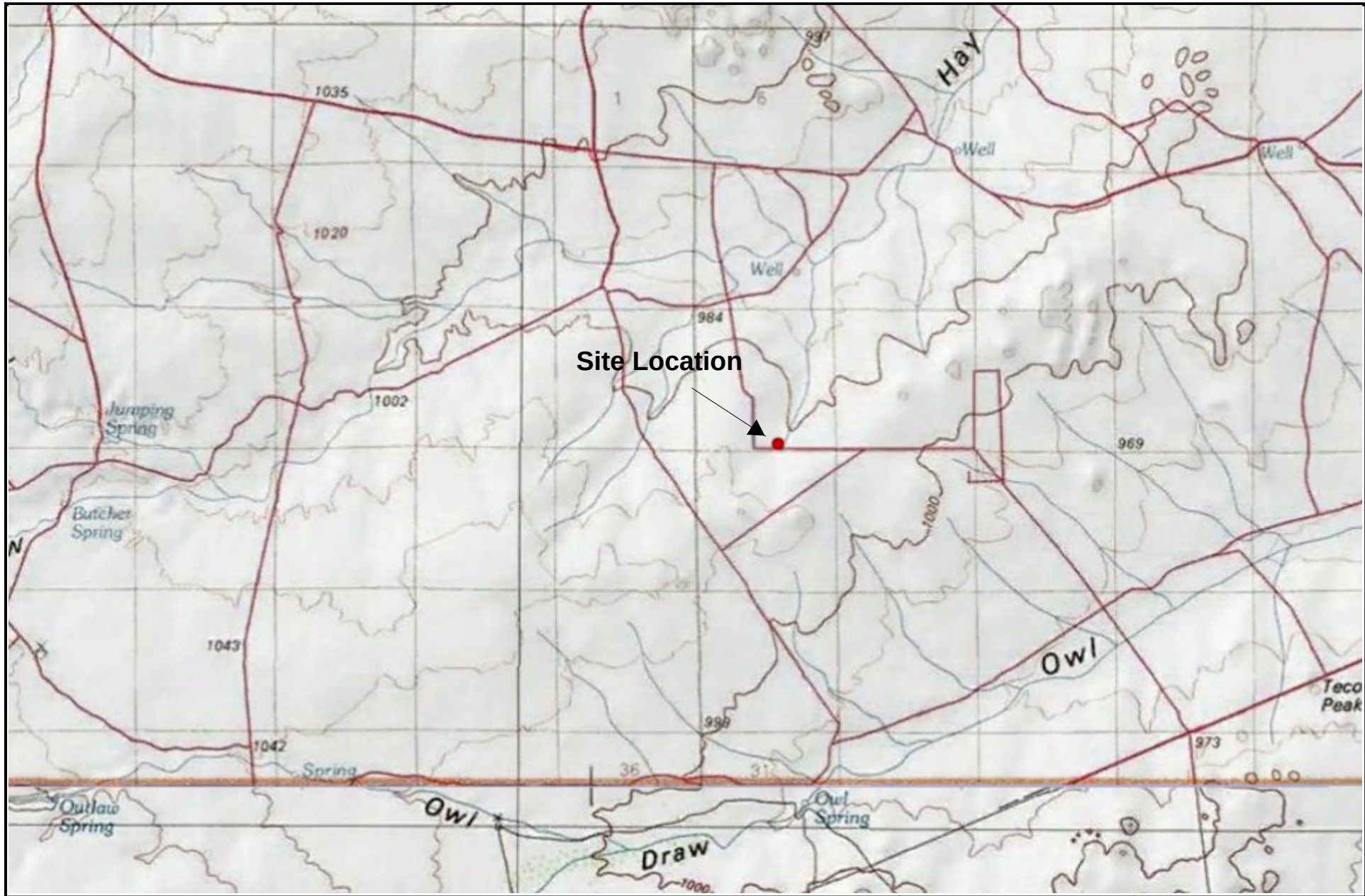
TRC has prepared this Remediation Summary and Site Closure Request to the best of its ability. No other warranty, expressed or implied, is made or intended.

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

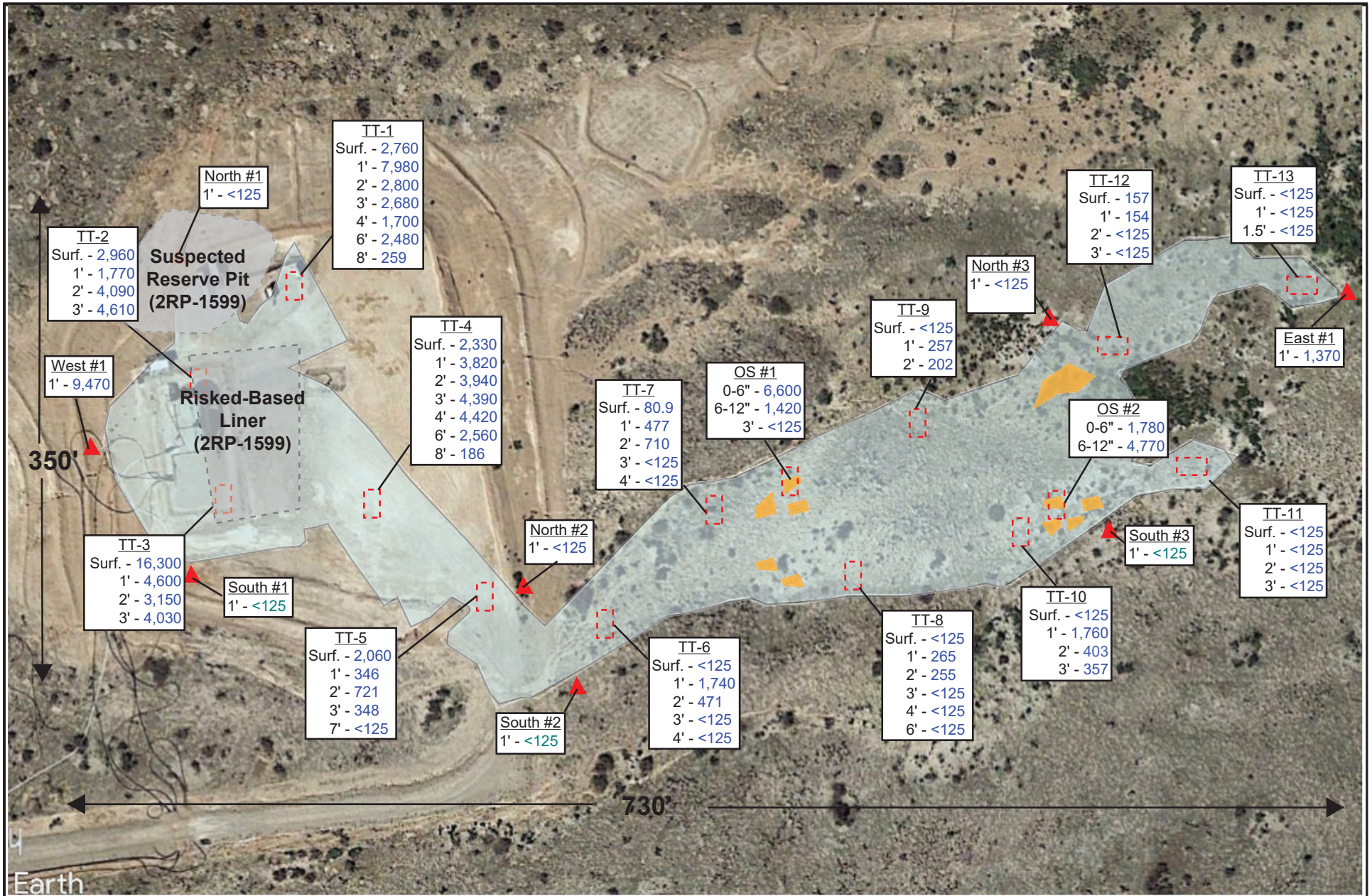
This report has been prepared for the benefit of COG Operating, LLC. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of TRC and/or COG Operating, LLC.

DISTRIBUTION

- Copy 1: Bradford Billings
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 2
811 S. First Street
Artesia, NM 88210
- Copy 2: Crystal Weaver
U.S. Department of Interior
Bureau of Land Management
620 E. Greene St.
Carlsbad, NM 88220
- Copy 3: Rebecca Haskell
COG Operating, LLC
600 W. Illinois Avenue
Midland, Texas 79701
- Copy 4: TRC Environmental Corporation
10 Desta Dr. STE 150E
Midland, Texas 79705



LEGEND: 5000 2500 0 2500 5000 Distance in Feet	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.: 300495	 10 Desta Dr. STE 150E Midland, Texas 79705 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.: 300495	



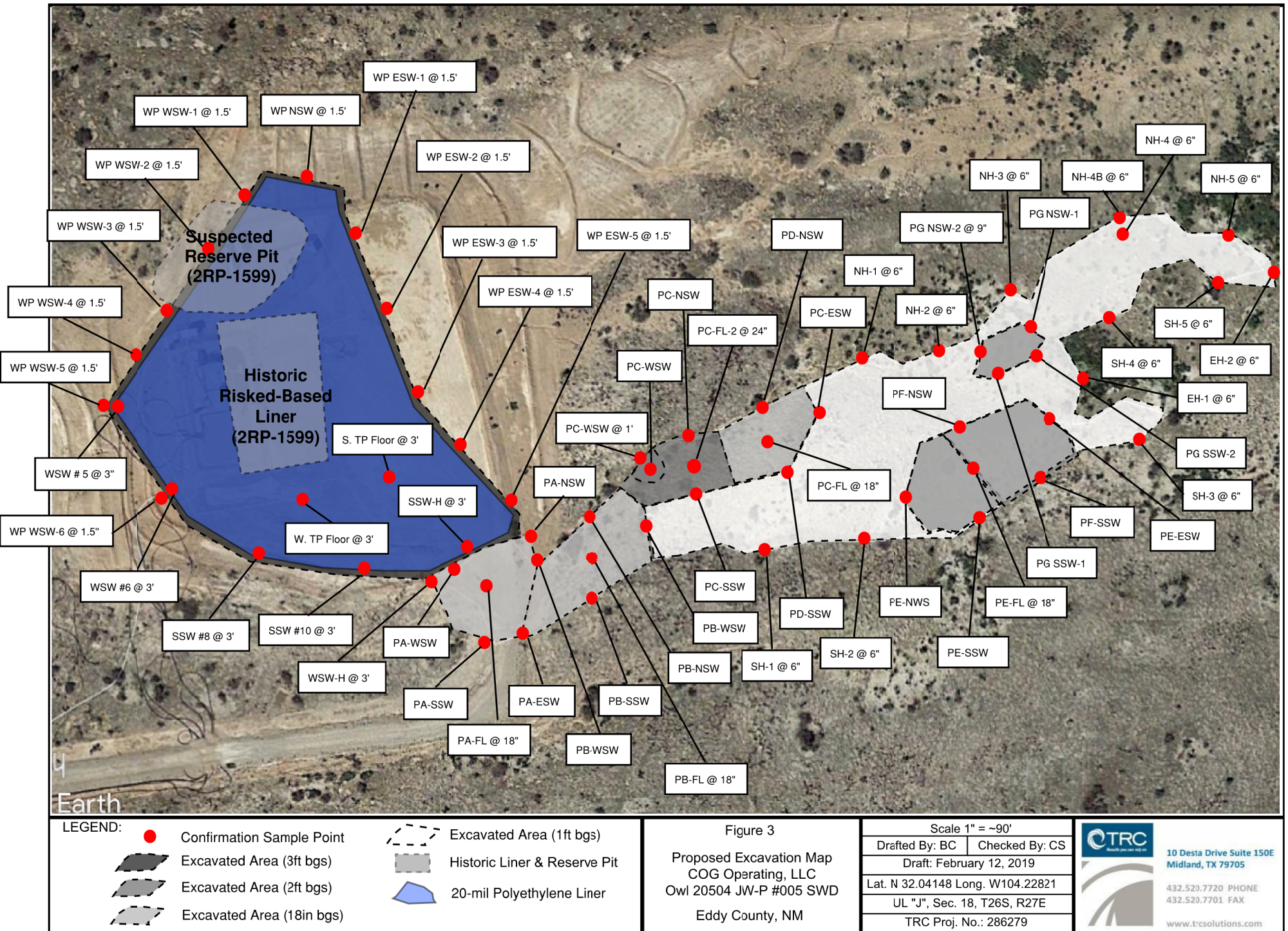


TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

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

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DEPTH	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M				E 300.1
				BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₀	TPH DRO C ₁₀ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
TT-1 @ Surface		10/03/17	Excavated	<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	Excavated	<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	Excavated	-	-	-	-	-	-	-	-	-	2,800
TT-1 @ 3'		10/03/17	Excavated	-	-	-	-	-	-	-	-	-	2,680
TT-1 @ 4'		10/03/17	At-Risk	-	-	-	-	-	-	-	-	-	1,700
TT-1 @ 6'		10/03/17	At-Risk	-	-	-	-	-	-	-	-	-	2,480
TT-1 @ 8'-G		10/03/17	At-Risk	<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	Excavated	<0.0197	<0.0197	<0.0197	<0.0197	<0.0197	<3.94	293	67.9	361	2,960
TT-2 @ 1'		10/03/17	Excavated	<0.0198	0.0436	<0.0198	<0.0198	0.0436	160	191	<25.0	351	1,770
TT-2 @ 2'		10/03/17	Excavated	-	-	-	-	-	-	-	-	-	4,090
TT-2 @ 3'		10/03/17	Excavated	<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	Excavated	<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	Excavated	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	Excavated	-	-	-	-	-	-	-	-	-	3,150
TT-3 @ 3'		10/03/17	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	-	-	-	-	-	-	-	-	-	3,940
TT-4 @ 3'		10/03/17	Excavated	-	-	-	-	-	-	-	-	-	4,390
TT-4 @ 4'		10/03/17	At-Risk	-	-	-	-	-	-	-	-	-	4,420
TT-4 @ 6'		10/03/17	At-Risk	-	-	-	-	-	-	-	-	-	2,560
TT-4 @ 8'-G		10/03/17	At-Risk	<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	Excavated	<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	Excavated	<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	Excavated	-	-	-	-	-	-	-	-	-	721
TT-5 @ 3'		10/03/17	Excavated	-	-	-	-	-	-	-	-	-	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

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 DEPTH	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M				E 300.1
				BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₀	TPH DRO C ₁₀ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
TT-6 @ Surface		10/03/17	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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

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 DEPTH	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M				E 300.1
				BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₀	TPH DRO C ₁₀ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
TT-12 @ Surface		10/03/17	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<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	Excavated	<0.0199	<0.0199	<0.0199	<0.0199	<0.0199	<3.98	<25.0	<25.0	<25.0	4,770

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 DEPTH	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M				E 300.1
				BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₀	TPH DRO C ₁₀ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
PA-SSW	9"	07/25/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<4.96
PA-NSW	9"	07/25/18	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	<5.00
PA-ESW	9"	07/25/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	11.6
PA-WSW	9"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	15.2	<15.0	<15.0	15.2	<4.97
PA-FL @ 18"	18"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<4.96
PB-SSW	9"	07/25/18	In-Situ	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	16.2	<15.0	<15.0	16.2	262
PB-NSW	9"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<5.00
PB-ESW	9"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	15.2	15.2	112
PB-WSW	9"	07/25/18	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	81.0
PB-FL @ 18"	18"	07/25/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	432
PC-SSW	9"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	113
PC-NSW	9"	07/25/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	357
PC-ESW	9"	07/25/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<4.95
PC-WSW	9"	07/25/18	Excavated	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	616
PC-FL @ 18"	18"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	68.1
PD-SSW	9"	07/25/18	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	186
PD-NSW	9"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	180
PE-SSW	9"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	27.8	<15.0	<15.0	27.8	431
PE-NSW	9"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	20.2	<15.0	<15.0	20.2	51.3
PE-ESW	9"	07/25/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	72.2
PE-FL @ 18"	18"	07/25/18	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	267
PF-SSW	9"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	416
PF-NSW	9"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	16.1	<15.0	<15.0	16.1	90.0
PG SSW-1	9"	07/25/18	In-Situ	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	<14.9	<14.9	<14.9	348
PG SSW-2	9"	07/25/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	27.7	<15.0	<15.0	<15.0	27.7
PG NSW-1	9"	07/25/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	30.1	<15.0	<15.0	30.1	101

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

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DEPTH	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M				E 300.1
				BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₀	TPH DRO C ₁₀ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
WP NSW @ 1.5'	1.5'	07/30/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	13.4
WP ESW-1 @ 1.5'	1.5'	07/30/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	278
WP ESW-2 @ 1.5'	1.5'	07/30/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	272
WP ESW-3 @ 1.5'	1.5'	07/30/18	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	313
WP ESW-4 @ 1.5'	1.5'	07/30/18	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	94.4
WP ESW-5 @ 1.5'	1.5'	07/30/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	50.0
WP WSW-1 @ 1.5'	1.5'	07/30/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	30.2
WP WSW-2 @ 1.5'	1.5'	07/30/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	94.4
WP WSW-3 @ 1.5'	1.5'	07/30/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	48.6
WP WSW-4 @ 1.5'	1.5'	07/30/18	In-Situ	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	30.6	<15.0	<15.0	30.6	<5.00
WP WSW-5 @ 1.5'	1.5'	07/30/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	186
WP WSW-6 @ 1.5'	1.5'	07/30/18	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	130
PG NSW-2 @ 9"	9"	07/31/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	16.4	<15.0	<15.0	16.4	57.4
EH-1 @ 6"	6"	07/31/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	12.4
EH-2 @ 6"	6"	07/31/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	18.7	<15.0	<15.0	18.7	<5.00
SH-1 @ 6"	6"	07/31/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	8.91
SH-2 @ 6"	6"	07/31/18	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	21.6	<15.0	<15.0	21.6	<4.99
SH-3 @ 6"	6"	07/31/18	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	7.84
SH-4 @ 6"	6"	07/31/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	25.1	<15.0	<15.0	25.1	<5.00
SH-5 @ 6"	6"	07/31/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	20.2	<15.0	<15.0	20.2	<5.00
NH-1 @ 6"	6"	07/31/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	5.29
NH-2 @ 6"	6"	07/31/18	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	15.7	<15.0	<15.0	15.7	46.1
NH-3 @ 6"	6"	07/31/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	15.3	<15.0	<15.0	15.3	513
NH-4 @ 6"	6"	07/31/18	Excavated	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	<14.9	<14.9	<14.9	1,320
NH-5 @ 6"	6"	07/31/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	5.01

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 DEPTH	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M				E 300.1
				BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₀	TPH DRO C ₁₀ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
PC WSW @ 1'	1'	08/16/18	In-Situ	-	-	-	-	-	-	-	-	-	63.8
NH-4 b @ 6"	6"	08/16/18	In-Situ	-	-	-	-	-	-	-	-	-	399
SSW #8 @ 3'	3'	08/22/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	84.2
SSW #10 @ 3'	3'	08/22/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	43.7
WSW #5 @ 3'	3'	08/22/18	In-Situ	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	519
WSW #6 @ 3'	3'	08/22/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	206
WSW H @ 3'	3'	08/22/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	82.5
SSW H @ 3'	3'	08/22/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	103
W. TP Floor @ 3'	3'	09/18/18	In-Situ	-	-	-	-	-	-	-	-	-	8.78
S. TP Floor @ 3.5'	3.5'	09/18/18	In-Situ	-	-	-	-	-	-	-	-	-	8.66
PC-FL-2 @ 24"	2'	03/06/19	In-Situ	-	-	-	-	-	-	-	-	-	77.0
NMOCD Recommended Remediation Action Level				10	-	-	-	50	-	-	-	1,000	600



Certificate of Analysis Summary 593803

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: Fri Jul-27-18 10:35 am

Report Date: 02-AUG-18

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	593803-001	593803-002	593803-003	593803-004	593803-005	593803-006
	<i>Field Id:</i>	PA-SSW	PA-NSW	PA-ESW	PA-WSW	PA-FL @ 18"	PB-SSW
	<i>Depth:</i>	9- In	9- In	9- In	9- In	18- In	9- In
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-25-18 08:00	Jul-25-18 08:10	Jul-25-18 08:20	Jul-25-18 08:30	Jul-25-18 08:40	Jul-25-18 08:50
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-27-18 17:00	Jul-27-18 17:00	Jul-27-18 17:00	Jul-27-18 17:00	Jul-27-18 17:00	Jul-27-18 17:00
	<i>Analyzed:</i>	Jul-28-18 09:14	Jul-28-18 09:34	Jul-28-18 09:55	Jul-28-18 10:16	Jul-28-18 10:37	Jul-28-18 10:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00402 0.00402	<0.00404 0.00404	<0.00398 0.00398	<0.00399 0.00399	<0.00401 0.00401	<0.00397 0.00397
o-Xylene		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.002 0.002	<0.002 0.002	<0.00198 0.00198
Total BTEX		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.002 0.002	<0.002 0.002	<0.00198 0.00198
Chloride by EPA 300	<i>Extracted:</i>	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00
	<i>Analyzed:</i>	Aug-02-18 10:24	Aug-02-18 10:30	Aug-02-18 10:37	Aug-02-18 10:44	Aug-02-18 10:50	Aug-01-18 17:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<4.96 4.96	<5.00 5.00	11.6 4.96	<4.97 4.97	<4.96 4.96	262 49.5
TPH by SW8015 Mod	<i>Extracted:</i>	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00
	<i>Analyzed:</i>	Jul-27-18 13:37	Jul-27-18 14:37	Jul-27-18 14:57	Jul-27-18 15:17	Jul-27-18 15:37	Jul-27-18 15:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	15.2 15.0	<15.0 15.0	16.2 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15 15	<14.9 14.9	<15 15	15.2 15	<15 15	16.2 15

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 593803

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: Fri Jul-27-18 10:35 am

Report Date: 02-AUG-18

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	593803-007	593803-008	593803-009	593803-010	593803-011	593803-012
	<i>Field Id:</i>	PB-NSW	PB-ESW	PB-WSW	PB-FL @ 18"	PE-ESW	PE-NSW
	<i>Depth:</i>	9- In	9- In	9- In	18- In	9- In	9- In
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-25-18 09:00	Jul-25-18 09:10	Jul-25-18 09:20	Jul-25-18 09:40	Jul-25-18 09:50	Jul-25-18 10:00
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-27-18 17:00	Jul-27-18 17:00	Jul-27-18 17:00	Jul-27-18 17:00	Jul-27-18 17:00	Jul-27-18 17:00
	<i>Analyzed:</i>	Jul-28-18 11:18	Jul-28-18 11:39	Jul-28-18 12:00	Jul-28-18 13:22	Jul-28-18 13:43	Jul-28-18 14:03
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00400 0.00400	<0.00403 0.00403	<0.00402 0.00402	<0.00398 0.00398	<0.00401 0.00401
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		<0.002 0.002	<0.002 0.002	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.002 0.002
Total BTEX		<0.002 0.002	<0.002 0.002	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199	<0.002 0.002
Chloride by EPA 300	<i>Extracted:</i>	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00
	<i>Analyzed:</i>	Aug-01-18 17:52	Aug-01-18 17:32	Aug-02-18 10:57	Aug-01-18 17:45	Aug-02-18 11:11	Aug-02-18 11:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.00 5.00	112 49.5	81.0 4.95	432 50.0	72.2 5.00	51.3 4.98
TPH by SW8015 Mod	<i>Extracted:</i>	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00
	<i>Analyzed:</i>	Jul-27-18 16:18	Jul-27-18 16:38	Jul-27-18 16:58	Jul-27-18 17:18	Jul-27-18 18:19	Jul-27-18 18:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<14.9 14.9	<15.0 15.0	20.2 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	15.2 14.9	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Total TPH		<15 15	15.2 14.9	<15 15	<14.9 14.9	<15 15	20.2 15

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 593803

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: Fri Jul-27-18 10:35 am

Report Date: 02-AUG-18

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	593803-013	593803-014	593803-015	593803-016	593803-017	593803-018
	<i>Field Id:</i>	PE-SSW	PE-FL @ 18"	PC-FL @ 18"	PC-SSW	PC-ESW	PC-NSW
	<i>Depth:</i>	9- In	18- In	18- In	9- In	9- In	9- In
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-25-18 10:10	Jul-25-18 10:20	Jul-25-18 10:30	Jul-25-18 10:40	Jul-25-18 10:50	Jul-25-18 11:00
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-27-18 17:00	Jul-30-18 15:00	Jul-30-18 15:00	Jul-30-18 15:00	Jul-30-18 15:00	Jul-30-18 15:00
	<i>Analyzed:</i>	Jul-28-18 08:53	Jul-30-18 21:44	Jul-31-18 00:32	Jul-31-18 00:52	Jul-31-18 01:53	Jul-31-18 02:14
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201
m,p-Xylenes		<0.00399 0.00399	<0.00403 0.00403	<0.00401 0.00401	<0.00399 0.00399	<0.00398 0.00398	<0.00402 0.00402
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201
Total Xylenes		<0.002 0.002	<0.00202 0.00202	<0.002 0.002	<0.002 0.002	<0.00199 0.00199	<0.00201 0.00201
Total BTEX		<0.002 0.002	<0.00202 0.00202	<0.002 0.002	<0.002 0.002	<0.00199 0.00199	<0.00201 0.00201
Chloride by EPA 300	<i>Extracted:</i>	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00	Aug-01-18 12:00
	<i>Analyzed:</i>	Aug-01-18 18:38	Aug-01-18 18:45	Aug-01-18 18:52	Aug-02-18 11:24	Aug-02-18 11:31	Aug-01-18 19:12
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		431 49.9	267 49.9	68.1 49.7	113 4.99	<4.95 4.95	357 50.0
TPH by SW8015 Mod	<i>Extracted:</i>	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 12:00
	<i>Analyzed:</i>	Jul-27-18 18:59	Jul-27-18 19:19	Jul-27-18 19:39	Jul-27-18 19:59	Jul-27-18 20:19	Jul-27-18 20:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		27.8 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		27.8 15	<15 15	<15 15	<15 15	<15 15	<15 15

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 593803

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: Fri Jul-27-18 10:35 am

Report Date: 02-AUG-18

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	593803-019	593803-020	593803-021	593803-022	593803-023	593803-024
	Field Id:	PC-WSW	PD-NSW	PD-SSW	PF-NSW	PF-SSW	PG-NSW-1
	Depth:	9- In	9- In	9- In	9- In	9- In	9- In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jul-25-18 11:30	Jul-25-18 11:10	Jul-25-18 11:20	Jul-25-18 11:40	Jul-25-18 11:50	Jul-25-18 12:00
BTEX by EPA 8021B	Extracted:	Jul-30-18 15:00	Jul-30-18 15:00	Jul-30-18 15:00	Jul-30-18 15:00	Jul-30-18 15:00	Jul-30-18 15:00
	Analyzed:	Jul-31-18 02:35	Jul-31-18 00:11	Jul-30-18 22:05	Jul-30-18 22:26	Jul-30-18 22:48	Jul-30-18 23:08
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00397 0.00397	<0.00400 0.00400	<0.00403 0.00403	<0.00401 0.00401	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00198 0.00198	<0.002 0.002	<0.00202 0.00202	<0.002 0.002	<0.002 0.002	<0.00199 0.00199
Total BTEX		<0.00198 0.00198	<0.002 0.002	<0.00202 0.00202	<0.002 0.002	<0.002 0.002	<0.00199 0.00199
Chloride by EPA 300	Extracted:	Aug-01-18 12:00	Aug-01-18 15:30	Aug-01-18 15:30	Aug-01-18 15:30	Aug-01-18 15:30	Aug-01-18 15:30
	Analyzed:	Aug-01-18 19:18	Aug-01-18 20:18	Aug-01-18 20:25	Aug-02-18 11:51	Aug-01-18 20:38	Aug-01-18 20:59
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		616 50.0	180 49.8	186 49.7	90.0 5.01	416 49.6	101 49.5
TPH by SW8015 Mod	Extracted:	Jul-27-18 12:00	Jul-27-18 12:00	Jul-27-18 16:00	Jul-27-18 16:00	Jul-27-18 16:00	Jul-27-18 16:00
	Analyzed:	Jul-27-18 20:59	Jul-27-18 21:19	Jul-27-18 22:58	Jul-27-18 23:59	Jul-28-18 00:19	Jul-28-18 00:39
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	16.1 15.0	<15.0 15.0	30.1 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15 15	<15 15	<15 15	16.1 15	<15 15	30.1 15

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 593803

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: Fri Jul-27-18 10:35 am

Report Date: 02-AUG-18

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	593803-025	593803-026				
	Field Id:	PG SSW-1	PG SSW-2				
	Depth:	9- In	9- In				
	Matrix:	SOIL	SOIL				
	Sampled:	Jul-25-18 12:10	Jul-25-18 12:20				
BTEX by EPA 8021B	Extracted:	Jul-30-18 15:00	Jul-30-18 15:00				
	Analyzed:	Jul-30-18 23:29	Jul-30-18 23:50				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00198 0.00198	<0.00200 0.00200				
Toluene		<0.00198 0.00198	<0.00200 0.00200				
Ethylbenzene		<0.00198 0.00198	<0.00200 0.00200				
m,p-Xylenes		<0.00396 0.00396	<0.00400 0.00400				
o-Xylene		<0.00198 0.00198	<0.00200 0.00200				
Total Xylenes		<0.00198 0.00198	<0.002 0.002				
Total BTEX		<0.00198 0.00198	<0.002 0.002				
Chloride by EPA 300	Extracted:	Aug-01-18 15:30	Aug-01-18 15:30				
	Analyzed:	Aug-01-18 21:05	Aug-01-18 21:12				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		348 49.7	250 49.6				
TPH by SW8015 Mod	Extracted:	Jul-27-18 16:00	Jul-27-18 16:00				
	Analyzed:	Jul-28-18 00:59	Jul-28-18 01:19				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	27.7 15.0				
Diesel Range Organics (DRO)		<14.9 14.9	<15.0 15.0				
Oil Range Hydrocarbons (ORO)		<14.9 14.9	<15.0 15.0				
Total TPH		<14.9 14.9	27.7 15				

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 593803

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

02-AUG-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

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

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



02-AUG-18

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

Reference: XENCO Report No(s): **593803**
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) 593803. 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. 593803 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', 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 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PA-SSW	S	07-25-18 08:00	9 In	593803-001
PA-NSW	S	07-25-18 08:10	9 In	593803-002
PA-ESW	S	07-25-18 08:20	9 In	593803-003
PA-WSW	S	07-25-18 08:30	9 In	593803-004
PA-FL @ 18"	S	07-25-18 08:40	18 In	593803-005
PB-SSW	S	07-25-18 08:50	9 In	593803-006
PB-NSW	S	07-25-18 09:00	9 In	593803-007
PB-ESW	S	07-25-18 09:10	9 In	593803-008
PB-WSW	S	07-25-18 09:20	9 In	593803-009
PB-FL @ 18"	S	07-25-18 09:40	18 In	593803-010
PE-ESW	S	07-25-18 09:50	9 In	593803-011
PE-NSW	S	07-25-18 10:00	9 In	593803-012
PE-SSW	S	07-25-18 10:10	9 In	593803-013
PE-FL @ 18"	S	07-25-18 10:20	18 In	593803-014
PC-FL @ 18"	S	07-25-18 10:30	18 In	593803-015
PC-SSW	S	07-25-18 10:40	9 In	593803-016
PC-ESW	S	07-25-18 10:50	9 In	593803-017
PC-NSW	S	07-25-18 11:00	9 In	593803-018
PC-WSW	S	07-25-18 11:30	9 In	593803-019
PD-NSW	S	07-25-18 11:10	9 In	593803-020
PD-SSW	S	07-25-18 11:20	9 In	593803-021
PF-NSW	S	07-25-18 11:40	9 In	593803-022
PF-SSW	S	07-25-18 11:50	9 In	593803-023
PG-NSW-1	S	07-25-18 12:00	9 In	593803-024
PG SSW-1	S	07-25-18 12:10	9 In	593803-025
PG SSW-2	S	07-25-18 12:20	9 In	593803-026

**CASE NARRATIVE****Client Name: TRC Solutions, Inc****Project Name: Owl 20504 JV-P #005 SWD**

Project ID:

Work Order Number(s): 593803

Report Date: 02-AUG-18

Date Received: 07/27/2018

Sample receipt non conformances and comments:None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3058124 BTEX by EPA 8021B

Lab Sample ID 593803-013 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene 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: 593803-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

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

Batch: LBA-3058491 BTEX by EPA 8021B

Lab Sample ID 593803-014 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). m,p-Xylenes recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 593803-014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024, -025, -026.

The Laboratory Control Sample for m,p-Xylenes is within laboratory Control Limits, therefore the data was accepted.

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

Batch: LBA-3058602 Chloride by EPA 300

Nitrate as N RPD was outside laboratory control limits.

Samples in the analytical batch are: 593803-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PA-SSW**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-001

Date Collected: 07.25.18 08.00

Sample Depth: 9 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 12.00

Basis: Wet Weight

Seq Number: 3058602

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	08.02.18 10.24	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 12.00

Basis: Wet Weight

Seq Number: 3058100

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 13.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 13.37	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 13.37	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 13.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	07.27.18 13.37	
o-Terphenyl	84-15-1	88	%	70-135	07.27.18 13.37	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PA-SSW**
Lab Sample Id: 593803-001

Matrix: Soil
Date Collected: 07.25.18 08.00

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.27.18 17.00

Basis: Wet Weight

Seq Number: 3058124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.28.18 09.14	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.28.18 09.14	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.28.18 09.14	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.28.18 09.14	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.28.18 09.14	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.28.18 09.14	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.28.18 09.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	70-130	07.28.18 09.14		
1,4-Difluorobenzene	540-36-3	111	%	70-130	07.28.18 09.14		



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PA-NSW**
 Lab Sample Id: 593803-002

Matrix: Soil
 Date Collected: 07.25.18 08.10

Date Received: 07.27.18 10.35
 Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
 Tech: SCM
 Analyst: SCM
 Seq Number: 3058602

Date Prep: 08.01.18 12.00

Prep Method: E300P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	08.02.18 10.30	U	1

Analytical Method: TPH by SW8015 Mod
 Tech: ARM
 Analyst: ARM
 Seq Number: 3058100

Date Prep: 07.27.18 12.00

Prep Method: TX1005P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.27.18 14.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.27.18 14.37	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	07.27.18 14.37	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.27.18 14.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	07.27.18 14.37	
o-Terphenyl	84-15-1	81	%	70-135	07.27.18 14.37	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PA-NSW**
Lab Sample Id: 593803-002

Matrix: Soil
Date Collected: 07.25.18 08.10

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.27.18 17.00

Basis: Wet Weight

Seq Number: 3058124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.28.18 09.34	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.28.18 09.34	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.28.18 09.34	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	07.28.18 09.34	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.28.18 09.34	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.28.18 09.34	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.28.18 09.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	87	%	70-130	07.28.18 09.34		
1,4-Difluorobenzene	540-36-3	111	%	70-130	07.28.18 09.34		



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PA-ESW**
 Lab Sample Id: 593803-003

Matrix: Soil
 Date Collected: 07.25.18 08.20

Date Received: 07.27.18 10.35
 Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
 Tech: SCM
 Analyst: SCM
 Seq Number: 3058602

Prep Method: E300P
 % Moisture:
 Basis: Wet Weight
 Date Prep: 08.01.18 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.6	4.96	mg/kg	08.02.18 10.37		1

Analytical Method: TPH by SW8015 Mod
 Tech: ARM
 Analyst: ARM
 Seq Number: 3058100

Prep Method: TX1005P
 % Moisture:
 Basis: Wet Weight
 Date Prep: 07.27.18 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 14.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 14.57	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 14.57	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 14.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	88	%	70-135	07.27.18 14.57		
o-Terphenyl	84-15-1	88	%	70-135	07.27.18 14.57		



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PA-ESW**
 Lab Sample Id: 593803-003

Matrix: Soil
 Date Collected: 07.25.18 08.20

Date Received: 07.27.18 10.35
 Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.27.18 17.00

Basis: Wet Weight

Seq Number: 3058124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.28.18 09.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.28.18 09.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.28.18 09.55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.28.18 09.55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.28.18 09.55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.28.18 09.55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.28.18 09.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	07.28.18 09.55		
4-Bromofluorobenzene	460-00-4	87	%	70-130	07.28.18 09.55		



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: PA-WSW

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-004

Date Collected: 07.25.18 08.30

Sample Depth: 9 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 12.00

Basis: Wet Weight

Seq Number: 3058602

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	08.02.18 10.44	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 12.00

Basis: Wet Weight

Seq Number: 3058100

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	15.2	15.0	mg/kg	07.27.18 15.17		1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 15.17	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 15.17	U	1
Total TPH	PHC635	15.2	15	mg/kg	07.27.18 15.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	07.27.18 15.17	
o-Terphenyl	84-15-1	85	%	70-135	07.27.18 15.17	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PA-WSW**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-004

Date Collected: 07.25.18 08.30

Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.27.18 17.00

Basis: Wet Weight

Seq Number: 3058124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.28.18 10.16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.28.18 10.16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.28.18 10.16	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.28.18 10.16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.28.18 10.16	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.28.18 10.16	U	1
Total BTEX		<0.002	0.002	mg/kg	07.28.18 10.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	07.28.18 10.16		
4-Bromofluorobenzene	460-00-4	86	%	70-130	07.28.18 10.16		



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: PA-FL @ 18"

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-005

Date Collected: 07.25.18 08.40

Sample Depth: 18 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 12.00

Basis: Wet Weight

Seq Number: 3058602

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	08.02.18 10.50	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 12.00

Basis: Wet Weight

Seq Number: 3058100

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 15.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 15.37	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 15.37	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 15.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	07.27.18 15.37	
o-Terphenyl	84-15-1	96	%	70-135	07.27.18 15.37	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PA-FL @ 18"**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-005

Date Collected: 07.25.18 08.40

Sample Depth: 18 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.27.18 17.00

Basis: Wet Weight

Seq Number: 3058124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.28.18 10.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.28.18 10.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.28.18 10.37	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.28.18 10.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.28.18 10.37	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.28.18 10.37	U	1
Total BTEX		<0.002	0.002	mg/kg	07.28.18 10.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	112	%	70-130	07.28.18 10.37		
4-Bromofluorobenzene	460-00-4	88	%	70-130	07.28.18 10.37		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PB-SSW**
Lab Sample Id: 593803-006

Matrix: Soil
Date Collected: 07.25.18 08.50

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
Tech: SCM
Analyst: SCM
Seq Number: 3058602

Prep Method: E300P
% Moisture:
Date Prep: 08.01.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	262	49.5	mg/kg	08.01.18 17.25		10

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3058100

Prep Method: TX1005P
% Moisture:
Date Prep: 07.27.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	16.2	15.0	mg/kg	07.27.18 15.57		1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 15.57	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 15.57	U	1
Total TPH	PHC635	16.2	15	mg/kg	07.27.18 15.57		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	87	%	70-135	07.27.18 15.57		
o-Terphenyl	84-15-1	83	%	70-135	07.27.18 15.57		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PB-SSW**
Lab Sample Id: 593803-006

Matrix: Soil
Date Collected: 07.25.18 08.50

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.27.18 17.00

Basis: Wet Weight

Seq Number: 3058124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.28.18 10.57	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.28.18 10.57	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.28.18 10.57	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.28.18 10.57	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.28.18 10.57	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.28.18 10.57	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.28.18 10.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	88	%	70-130	07.28.18 10.57		
1,4-Difluorobenzene	540-36-3	108	%	70-130	07.28.18 10.57		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PB-NSW**
Lab Sample Id: 593803-007

Matrix: Soil
Date Collected: 07.25.18 09.00

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
Tech: SCM
Analyst: SCM
Seq Number: 3058602

Prep Method: E300P
% Moisture:
Date Prep: 08.01.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	08.01.18 17.52	U	1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3058100

Prep Method: TX1005P
% Moisture:
Date Prep: 07.27.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 16.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 16.18	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 16.18	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 16.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	07.27.18 16.18	
o-Terphenyl	84-15-1	95	%	70-135	07.27.18 16.18	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PB-NSW**
Lab Sample Id: 593803-007

Matrix: Soil
Date Collected: 07.25.18 09.00

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3058124

Date Prep: 07.27.18 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.28.18 11.18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.28.18 11.18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.28.18 11.18	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.28.18 11.18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.28.18 11.18	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.28.18 11.18	U	1
Total BTEX		<0.002	0.002	mg/kg	07.28.18 11.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	111	%	70-130	07.28.18 11.18		
4-Bromofluorobenzene	460-00-4	85	%	70-130	07.28.18 11.18		



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TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PB-ESW**
Lab Sample Id: 593803-008

Matrix: Soil
Date Collected: 07.25.18 09.10

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
Tech: SCM
Analyst: SCM
Seq Number: 3058602

Prep Method: E300P
% Moisture:
Date Prep: 08.01.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	112	49.5	mg/kg	08.01.18 17.32		10

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3058100

Prep Method: TX1005P
% Moisture:
Date Prep: 07.27.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.27.18 16.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.27.18 16.38	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	15.2	14.9	mg/kg	07.27.18 16.38		1
Total TPH	PHC635	15.2	14.9	mg/kg	07.27.18 16.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	07.27.18 16.38	
o-Terphenyl	84-15-1	96	%	70-135	07.27.18 16.38	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PB-ESW**
Lab Sample Id: 593803-008

Matrix: Soil
Date Collected: 07.25.18 09.10

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3058124

Date Prep: 07.27.18 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.28.18 11.39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.28.18 11.39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.28.18 11.39	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.28.18 11.39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.28.18 11.39	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.28.18 11.39	U	1
Total BTEX		<0.002	0.002	mg/kg	07.28.18 11.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	86	%	70-130	07.28.18 11.39		
1,4-Difluorobenzene	540-36-3	106	%	70-130	07.28.18 11.39		



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TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PB-WSW**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-009

Date Collected: 07.25.18 09.20

Sample Depth: 9 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 12.00

Basis: Wet Weight

Seq Number: 3058602

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	81.0	4.95	mg/kg	08.02.18 10.57		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 12.00

Basis: Wet Weight

Seq Number: 3058100

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 16.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 16.58	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 16.58	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 16.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.27.18 16.58	
o-Terphenyl	84-15-1	92	%	70-135	07.27.18 16.58	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PB-WSW**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-009

Date Collected: 07.25.18 09.20

Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.27.18 17.00

Basis: Wet Weight

Seq Number: 3058124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.28.18 12.00	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.28.18 12.00	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.28.18 12.00	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.28.18 12.00	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.28.18 12.00	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.28.18 12.00	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.28.18 12.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	87	%	70-130	07.28.18 12.00		
1,4-Difluorobenzene	540-36-3	112	%	70-130	07.28.18 12.00		



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PB-FL @ 18"**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-010

Date Collected: 07.25.18 09.40

Sample Depth: 18 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 12.00

Basis: Wet Weight

Seq Number: 3058602

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	432	50.0	mg/kg	08.01.18 17.45		10

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 12.00

Basis: Wet Weight

Seq Number: 3058100

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.27.18 17.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.27.18 17.18	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	07.27.18 17.18	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.27.18 17.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.27.18 17.18	
o-Terphenyl	84-15-1	89	%	70-135	07.27.18 17.18	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PB-FL @ 18"**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-010

Date Collected: 07.25.18 09.40

Sample Depth: 18 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.27.18 17.00

Basis: Wet Weight

Seq Number: 3058124

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.28.18 13.22	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.28.18 13.22	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.28.18 13.22	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.28.18 13.22	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.28.18 13.22	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.28.18 13.22	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.28.18 13.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	07.28.18 13.22		
4-Bromofluorobenzene	460-00-4	86	%	70-130	07.28.18 13.22		



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TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PE-ESW**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-011

Date Collected: 07.25.18 09.50

Sample Depth: 9 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 12.00

Basis: Wet Weight

Seq Number: 3058602

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	72.2	5.00	mg/kg	08.02.18 11.11		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 12.00

Basis: Wet Weight

Seq Number: 3058100

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 18.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 18.19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 18.19	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 18.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.27.18 18.19	
o-Terphenyl	84-15-1	85	%	70-135	07.27.18 18.19	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PE-ESW**
Lab Sample Id: 593803-011

Matrix: Soil
Date Collected: 07.25.18 09.50

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3058124

Date Prep: 07.27.18 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.28.18 13.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.28.18 13.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.28.18 13.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.28.18 13.43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.28.18 13.43	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.28.18 13.43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.28.18 13.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	07.28.18 13.43		
4-Bromofluorobenzene	460-00-4	90	%	70-130	07.28.18 13.43		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PE-NSW**
Lab Sample Id: 593803-012

Matrix: Soil
Date Collected: 07.25.18 10.00

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
Tech: SCM
Analyst: SCM
Seq Number: 3058602

Prep Method: E300P
% Moisture:
Date Prep: 08.01.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	51.3	4.98	mg/kg	08.02.18 11.18		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3058100

Prep Method: TX1005P
% Moisture:
Date Prep: 07.27.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	20.2	15.0	mg/kg	07.27.18 18.39		1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 18.39	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 18.39	U	1
Total TPH	PHC635	20.2	15	mg/kg	07.27.18 18.39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	07.27.18 18.39	
o-Terphenyl	84-15-1	80	%	70-135	07.27.18 18.39	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PE-NSW**
Lab Sample Id: 593803-012

Matrix: Soil
Date Collected: 07.25.18 10.00

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3058124

Date Prep: 07.27.18 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.28.18 14.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.28.18 14.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.28.18 14.03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.28.18 14.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.28.18 14.03	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.28.18 14.03	U	1
Total BTEX		<0.002	0.002	mg/kg	07.28.18 14.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	88	%	70-130	07.28.18 14.03		
1,4-Difluorobenzene	540-36-3	104	%	70-130	07.28.18 14.03		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PE-SSW**
Lab Sample Id: 593803-013

Matrix: Soil
Date Collected: 07.25.18 10.10

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
Tech: SCM
Analyst: SCM
Seq Number: 3058602

Prep Method: E300P
% Moisture:
Date Prep: 08.01.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	431	49.9	mg/kg	08.01.18 18.38		10

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3058100

Prep Method: TX1005P
% Moisture:
Date Prep: 07.27.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	27.8	15.0	mg/kg	07.27.18 18.59		1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 18.59	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 18.59	U	1
Total TPH	PHC635	27.8	15	mg/kg	07.27.18 18.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	07.27.18 18.59	
o-Terphenyl	84-15-1	78	%	70-135	07.27.18 18.59	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PE-SSW**
Lab Sample Id: 593803-013

Matrix: Soil
Date Collected: 07.25.18 10.10

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3058124

Date Prep: 07.27.18 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.28.18 08.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.28.18 08.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.28.18 08.53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.28.18 08.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.28.18 08.53	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.28.18 08.53	U	1
Total BTEX		<0.002	0.002	mg/kg	07.28.18 08.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	86	%	70-130	07.28.18 08.53		
1,4-Difluorobenzene	540-36-3	109	%	70-130	07.28.18 08.53		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PE-FL @ 18"**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-014

Date Collected: 07.25.18 10.20

Sample Depth: 18 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 12.00

Basis: Wet Weight

Seq Number: 3058602

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	267	49.9	mg/kg	08.01.18 18.45		10

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 12.00

Basis: Wet Weight

Seq Number: 3058100

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 19.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 19.19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 19.19	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 19.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	07.27.18 19.19	
o-Terphenyl	84-15-1	88	%	70-135	07.27.18 19.19	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PE-FL @ 18"**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-014

Date Collected: 07.25.18 10.20

Sample Depth: 18 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.30.18 15.00

Basis: Wet Weight

Seq Number: 3058491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.30.18 21.44	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.30.18 21.44	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.30.18 21.44	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.30.18 21.44	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.30.18 21.44	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.30.18 21.44	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.30.18 21.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	07.30.18 21.44		
1,4-Difluorobenzene	540-36-3	111	%	70-130	07.30.18 21.44		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PC-FL @ 18"**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-015

Date Collected: 07.25.18 10.30

Sample Depth: 18 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 12.00

Basis: Wet Weight

Seq Number: 3058602

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	68.1	49.7	mg/kg	08.01.18 18.52		10

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 12.00

Basis: Wet Weight

Seq Number: 3058100

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 19.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 19.39	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 19.39	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 19.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	92	%	70-135	07.27.18 19.39		
o-Terphenyl	84-15-1	91	%	70-135	07.27.18 19.39		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PC-FL @ 18"**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-015

Date Collected: 07.25.18 10.30

Sample Depth: 18 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.30.18 15.00

Basis: Wet Weight

Seq Number: 3058491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.31.18 00.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.31.18 00.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.31.18 00.32	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.31.18 00.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.31.18 00.32	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.31.18 00.32	U	1
Total BTEX		<0.002	0.002	mg/kg	07.31.18 00.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	07.31.18 00.32		
1,4-Difluorobenzene	540-36-3	111	%	70-130	07.31.18 00.32		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PC-SSW**
Lab Sample Id: 593803-016

Matrix: Soil
Date Collected: 07.25.18 10.40

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
Tech: SCM
Analyst: SCM
Seq Number: 3058602

Date Prep: 08.01.18 12.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	113	4.99	mg/kg	08.02.18 11.24		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3058100

Date Prep: 07.27.18 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 19.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 19.59	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 19.59	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 19.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	90	%	70-135	07.27.18 19.59		
o-Terphenyl	84-15-1	89	%	70-135	07.27.18 19.59		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PC-SSW**
Lab Sample Id: 593803-016

Matrix: Soil
Date Collected: 07.25.18 10.40

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.30.18 15.00

Basis: Wet Weight

Seq Number: 3058491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.31.18 00.52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.31.18 00.52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.31.18 00.52	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.31.18 00.52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.31.18 00.52	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.31.18 00.52	U	1
Total BTEX		<0.002	0.002	mg/kg	07.31.18 00.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	07.31.18 00.52		
4-Bromofluorobenzene	460-00-4	100	%	70-130	07.31.18 00.52		



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PC-ESW**
 Lab Sample Id: 593803-017

Matrix: Soil
 Date Collected: 07.25.18 10.50

Date Received: 07.27.18 10.35
 Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
 Tech: SCM
 Analyst: SCM
 Seq Number: 3058602

Prep Method: E300P
 % Moisture:
 Basis: Wet Weight
 Date Prep: 08.01.18 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	08.02.18 11.31	U	1

Analytical Method: TPH by SW8015 Mod
 Tech: ARM
 Analyst: ARM
 Seq Number: 3058100

Prep Method: TX1005P
 % Moisture:
 Basis: Wet Weight
 Date Prep: 07.27.18 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 20.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 20.19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 20.19	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 20.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.27.18 20.19	
o-Terphenyl	84-15-1	89	%	70-135	07.27.18 20.19	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PC-ESW**
Lab Sample Id: 593803-017

Matrix: Soil
Date Collected: 07.25.18 10.50

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.30.18 15.00

Basis: Wet Weight

Seq Number: 3058491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.31.18 01.53	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.31.18 01.53	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.31.18 01.53	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.31.18 01.53	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.31.18 01.53	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.31.18 01.53	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.31.18 01.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	07.31.18 01.53		
1,4-Difluorobenzene	540-36-3	107	%	70-130	07.31.18 01.53		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PC-NSW**
Lab Sample Id: 593803-018

Matrix: Soil
Date Collected: 07.25.18 11.00

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
Tech: SCM
Analyst: SCM
Seq Number: 3058602

Date Prep: 08.01.18 12.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	357	50.0	mg/kg	08.01.18 19.12		10

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3058100

Date Prep: 07.27.18 12.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 20.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 20.39	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 20.39	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 20.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	07.27.18 20.39	
o-Terphenyl	84-15-1	91	%	70-135	07.27.18 20.39	



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PC-NSW**
 Lab Sample Id: 593803-018

Matrix: Soil
 Date Collected: 07.25.18 11.00

Date Received: 07.27.18 10.35
 Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.30.18 15.00

Basis: Wet Weight

Seq Number: 3058491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.31.18 02.14	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.31.18 02.14	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.31.18 02.14	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.31.18 02.14	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.31.18 02.14	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.31.18 02.14	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.31.18 02.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	07.31.18 02.14		
1,4-Difluorobenzene	540-36-3	111	%	70-130	07.31.18 02.14		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PC-WSW**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-019

Date Collected: 07.25.18 11.30

Sample Depth: 9 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 12.00

Basis: Wet Weight

Seq Number: 3058602

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	616	50.0	mg/kg	08.01.18 19.18		10

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 12.00

Basis: Wet Weight

Seq Number: 3058100

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 20.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 20.59	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 20.59	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 20.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	07.27.18 20.59	
o-Terphenyl	84-15-1	86	%	70-135	07.27.18 20.59	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PC-WSW**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-019

Date Collected: 07.25.18 11.30

Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.30.18 15.00

Basis: Wet Weight

Seq Number: 3058491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.31.18 02.35	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.31.18 02.35	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.31.18 02.35	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.31.18 02.35	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.31.18 02.35	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.31.18 02.35	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.31.18 02.35	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	07.31.18 02.35		
1,4-Difluorobenzene	540-36-3	104	%	70-130	07.31.18 02.35		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PD-NSW**
Lab Sample Id: 593803-020

Matrix: Soil
Date Collected: 07.25.18 11.10

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
Tech: SCM
Analyst: SCM
Seq Number: 3058608

Prep Method: E300P
% Moisture:
Basis: Wet Weight
Date Prep: 08.01.18 15.30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	180	49.8	mg/kg	08.01.18 20.18		10

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3058100

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight
Date Prep: 07.27.18 12.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 21.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 21.19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 21.19	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 21.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	94	%	70-135	07.27.18 21.19		
o-Terphenyl	84-15-1	94	%	70-135	07.27.18 21.19		



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PD-NSW**
 Lab Sample Id: 593803-020

Matrix: Soil
 Date Collected: 07.25.18 11.10

Date Received: 07.27.18 10.35
 Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.30.18 15.00

Basis: Wet Weight

Seq Number: 3058491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.31.18 00.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.31.18 00.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.31.18 00.11	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.31.18 00.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.31.18 00.11	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.31.18 00.11	U	1
Total BTEX		<0.002	0.002	mg/kg	07.31.18 00.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	07.31.18 00.11		
1,4-Difluorobenzene	540-36-3	106	%	70-130	07.31.18 00.11		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PD-SSW**
Lab Sample Id: 593803-021

Matrix: Soil
Date Collected: 07.25.18 11.20

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
Tech: SCM
Analyst: SCM
Seq Number: 3058608

Prep Method: E300P
% Moisture:
Date Prep: 08.01.18 15.30
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	186	49.7	mg/kg	08.01.18 20.25		10

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3058101

Prep Method: TX1005P
% Moisture:
Date Prep: 07.27.18 16.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.27.18 22.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 22.58	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 22.58	U	1
Total TPH	PHC635	<15	15	mg/kg	07.27.18 22.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	07.27.18 22.58	
o-Terphenyl	84-15-1	92	%	70-135	07.27.18 22.58	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PD-SSW**
Lab Sample Id: 593803-021

Matrix: Soil
Date Collected: 07.25.18 11.20

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.30.18 15.00

Basis: Wet Weight

Seq Number: 3058491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.30.18 22.05	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.30.18 22.05	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.30.18 22.05	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.30.18 22.05	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.30.18 22.05	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.30.18 22.05	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.30.18 22.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	07.30.18 22.05		
1,4-Difluorobenzene	540-36-3	105	%	70-130	07.30.18 22.05		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PF-NSW**
Lab Sample Id: 593803-022

Matrix: Soil
Date Collected: 07.25.18 11.40

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
Tech: SCM
Analyst: SCM
Seq Number: 3058608

Prep Method: E300P
% Moisture:
Date Prep: 08.01.18 15.30
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	90.0	5.01	mg/kg	08.02.18 11.51		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3058101

Prep Method: TX1005P
% Moisture:
Date Prep: 07.27.18 16.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	16.1	15.0	mg/kg	07.27.18 23.59		1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.27.18 23.59	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.27.18 23.59	U	1
Total TPH	PHC635	16.1	15	mg/kg	07.27.18 23.59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	07.27.18 23.59	
o-Terphenyl	84-15-1	85	%	70-135	07.27.18 23.59	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PF-NSW**
Lab Sample Id: 593803-022

Matrix: Soil
Date Collected: 07.25.18 11.40

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3058491

Date Prep: 07.30.18 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.30.18 22.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.30.18 22.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.30.18 22.26	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.30.18 22.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.30.18 22.26	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.30.18 22.26	U	1
Total BTEX		<0.002	0.002	mg/kg	07.30.18 22.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	07.30.18 22.26		
1,4-Difluorobenzene	540-36-3	107	%	70-130	07.30.18 22.26		



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PF-SSW**
 Lab Sample Id: 593803-023

Matrix: Soil
 Date Collected: 07.25.18 11.50

Date Received: 07.27.18 10.35
 Sample Depth: 9 In

Analytical Method: Chloride by EPA 300
 Tech: SCM
 Analyst: SCM
 Seq Number: 3058608

Prep Method: E300P
 % Moisture:
 Basis: Wet Weight
 Date Prep: 08.01.18 15.30

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	416	49.6	mg/kg	08.01.18 20.38		10

Analytical Method: TPH by SW8015 Mod
 Tech: ARM
 Analyst: ARM
 Seq Number: 3058101

Prep Method: TX1005P
 % Moisture:
 Basis: Wet Weight
 Date Prep: 07.27.18 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.28.18 00.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.28.18 00.19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.28.18 00.19	U	1
Total TPH	PHC635	<15	15	mg/kg	07.28.18 00.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	93	%	70-135	07.28.18 00.19		
o-Terphenyl	84-15-1	95	%	70-135	07.28.18 00.19		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PF-SSW**
Lab Sample Id: 593803-023

Matrix: Soil
Date Collected: 07.25.18 11.50

Date Received: 07.27.18 10.35
Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3058491

Date Prep: 07.30.18 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.30.18 22.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.30.18 22.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.30.18 22.48	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.30.18 22.48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.30.18 22.48	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.30.18 22.48	U	1
Total BTEX		<0.002	0.002	mg/kg	07.30.18 22.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	70-130	07.30.18 22.48		
1,4-Difluorobenzene	540-36-3	106	%	70-130	07.30.18 22.48		



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: PG-NSW-1

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-024

Date Collected: 07.25.18 12.00

Sample Depth: 9 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 15.30

Basis: Wet Weight

Seq Number: 3058608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	101	49.5	mg/kg	08.01.18 20.59		10

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 16.00

Basis: Wet Weight

Seq Number: 3058101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	30.1	15.0	mg/kg	07.28.18 00.39		1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.28.18 00.39	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.28.18 00.39	U	1
Total TPH	PHC635	30.1	15	mg/kg	07.28.18 00.39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	07.28.18 00.39	
o-Terphenyl	84-15-1	72	%	70-135	07.28.18 00.39	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PG-NSW-1**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-024

Date Collected: 07.25.18 12.00

Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.30.18 15.00

Basis: Wet Weight

Seq Number: 3058491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.30.18 23.08	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.30.18 23.08	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.30.18 23.08	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.30.18 23.08	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.30.18 23.08	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.30.18 23.08	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.30.18 23.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	07.30.18 23.08		
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.30.18 23.08		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PG SSW-1**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-025

Date Collected: 07.25.18 12.10

Sample Depth: 9 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 15.30

Basis: Wet Weight

Seq Number: 3058608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	348	49.7	mg/kg	08.01.18 21.05		10

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 16.00

Basis: Wet Weight

Seq Number: 3058101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.28.18 00.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.28.18 00.59	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	07.28.18 00.59	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.28.18 00.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	07.28.18 00.59	
o-Terphenyl	84-15-1	87	%	70-135	07.28.18 00.59	



Certificate of Analytical Results 593803

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: PG SSW-1

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-025

Date Collected: 07.25.18 12.10

Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.30.18 15.00

Basis: Wet Weight

Seq Number: 3058491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.30.18 23.29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.30.18 23.29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.30.18 23.29	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	07.30.18 23.29	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.30.18 23.29	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.30.18 23.29	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.30.18 23.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	07.30.18 23.29		
1,4-Difluorobenzene	540-36-3	106	%	70-130	07.30.18 23.29		



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: **PG SSW-2**

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-026

Date Collected: 07.25.18 12.20

Sample Depth: 9 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.01.18 15.30

Basis: Wet Weight

Seq Number: 3058608

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	250	49.6	mg/kg	08.01.18 21.12		10

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.27.18 16.00

Basis: Wet Weight

Seq Number: 3058101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	27.7	15.0	mg/kg	07.28.18 01.19		1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.28.18 01.19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.28.18 01.19	U	1
Total TPH	PHC635	27.7	15	mg/kg	07.28.18 01.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	07.28.18 01.19	
o-Terphenyl	84-15-1	71	%	70-135	07.28.18 01.19	



Certificate of Analytical Results 593803



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id: PG SSW-2

Matrix: Soil

Date Received: 07.27.18 10.35

Lab Sample Id: 593803-026

Date Collected: 07.25.18 12.20

Sample Depth: 9 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.30.18 15.00

Basis: Wet Weight

Seq Number: 3058491

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.30.18 23.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.30.18 23.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.30.18 23.50	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.30.18 23.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.30.18 23.50	U	1
Total Xylenes	1330-20-7	<0.002	0.002	mg/kg	07.30.18 23.50	U	1
Total BTEX		<0.002	0.002	mg/kg	07.30.18 23.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	07.30.18 23.50		
4-Bromofluorobenzene	460-00-4	100	%	70-130	07.30.18 23.50		



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



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

Analytical Method: Chloride by EPA 300

Seq Number: 3058602

MB Sample Id: 7659577-1-BLK

Matrix: Solid

LCS Sample Id: 7659577-1-BKS

Prep Method: E300P

Date Prep: 08.01.18

LCSD Sample Id: 7659577-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	246	98	251	100	90-110	2	20	mg/kg	08.01.18 15:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3058608

MB Sample Id: 7659579-1-BLK

Matrix: Solid

LCS Sample Id: 7659579-1-BKS

Prep Method: E300P

Date Prep: 08.01.18

LCSD Sample Id: 7659579-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.99	250	258	103	254	102	90-110	2	20	mg/kg	08.01.18 19:45	

Analytical Method: Chloride by EPA 300

Seq Number: 3058602

Parent Sample Id: 593803-007

Matrix: Soil

MS Sample Id: 593803-007 S

Prep Method: E300P

Date Prep: 08.01.18

MSD Sample Id: 593803-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	254	102	254	102	90-110	0	20	mg/kg	08.01.18 17:55	

Analytical Method: Chloride by EPA 300

Seq Number: 3058602

Parent Sample Id: 593929-001

Matrix: Soil

MS Sample Id: 593929-001 S

Prep Method: E300P

Date Prep: 08.01.18

MSD Sample Id: 593929-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.6	249	271	103	272	104	90-110	0	20	mg/kg	08.01.18 16:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3058608

Parent Sample Id: 593804-001

Matrix: Soil

MS Sample Id: 593804-001 S

Prep Method: E300P

Date Prep: 08.01.18

MSD Sample Id: 593804-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	212	249	479	107	470	104	90-110	2	20	mg/kg	08.01.18 20:05	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



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

Analytical Method: Chloride by EPA 300

Seq Number: 3058608

Parent Sample Id: 593866-001

Matrix: Soil

MS Sample Id: 593866-001 S

Prep Method: E300P

Date Prep: 08.01.18

MSD Sample Id: 593866-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	340	248	597	104	591	101	90-110	1	20	mg/kg	08.01.18 21:39	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3058100

MB Sample Id: 7659281-1-BLK

Matrix: Solid

LCS Sample Id: 7659281-1-BKS

Prep Method: TX1005P

Date Prep: 07.27.18

LCSD Sample Id: 7659281-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	962	96	957	96	70-135	1	20	mg/kg	07.27.18 12:57	
Diesel Range Organics (DRO)	<15.0	1000	984	98	953	95	70-135	3	20	mg/kg	07.27.18 12:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		126		125		70-135	%	07.27.18 12:57
o-Terphenyl	103		98		98		70-135	%	07.27.18 12:57

Analytical Method: TPH by SW8015 Mod

Seq Number: 3058101

MB Sample Id: 7659283-1-BLK

Matrix: Solid

LCS Sample Id: 7659283-1-BKS

Prep Method: TX1005P

Date Prep: 07.27.18

LCSD Sample Id: 7659283-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	924	92	929	93	70-135	1	20	mg/kg	07.27.18 22:18	
Diesel Range Organics (DRO)	<15.0	1000	935	94	952	95	70-135	2	20	mg/kg	07.27.18 22:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		123		123		70-135	%	07.27.18 22:18
o-Terphenyl	92		95		95		70-135	%	07.27.18 22:18

Analytical Method: TPH by SW8015 Mod

Seq Number: 3058100

Parent Sample Id: 593803-001

Matrix: Soil

MS Sample Id: 593803-001 S

Prep Method: TX1005P

Date Prep: 07.27.18

MSD Sample Id: 593803-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	970	97	925	93	70-135	5	20	mg/kg	07.27.18 13:57	
Diesel Range Organics (DRO)	<15.0	998	1050	105	941	94	70-135	11	20	mg/kg	07.27.18 13:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		118		70-135	%	07.27.18 13:57
o-Terphenyl	95		83		70-135	%	07.27.18 13:57

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 $\text{Log Diff.} = \text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



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

Analytical Method: TPH by SW8015 Mod

Seq Number: 3058101

Parent Sample Id: 593803-021

Matrix: Soil

MS Sample Id: 593803-021 S

Prep Method: TX1005P

Date Prep: 07.27.18

MSD Sample Id: 593803-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	862	86	881	88	70-135	2	20	mg/kg	07.27.18 23:18	
Diesel Range Organics (DRO)	<15.0	999	897	90	926	93	70-135	3	20	mg/kg	07.27.18 23:18	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		123		70-135	%	07.27.18 23:18
o-Terphenyl	101		98		70-135	%	07.27.18 23:18

Analytical Method: BTEX by EPA 8021B

Seq Number: 3058124

MB Sample Id: 7659304-1-BLK

Matrix: Solid

LCS Sample Id: 7659304-1-BKS

Prep Method: SW5030B

Date Prep: 07.27.18

LCSD Sample Id: 7659304-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0874	87	0.0867	86	70-130	1	35	mg/kg	07.28.18 06:43	
Toluene	<0.00200	0.100	0.0882	88	0.0881	87	70-130	0	35	mg/kg	07.28.18 06:43	
Ethylbenzene	<0.00200	0.100	0.0979	98	0.0979	97	70-130	0	35	mg/kg	07.28.18 06:43	
m,p-Xylenes	<0.00401	0.200	0.192	96	0.193	96	70-130	1	35	mg/kg	07.28.18 06:43	
o-Xylene	<0.00200	0.100	0.0959	96	0.0967	96	70-130	1	35	mg/kg	07.28.18 06:43	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		109		109		70-130	%	07.28.18 06:43
4-Bromofluorobenzene	84		86		89		70-130	%	07.28.18 06:43

Analytical Method: BTEX by EPA 8021B

Seq Number: 3058491

MB Sample Id: 7659383-1-BLK

Matrix: Solid

LCS Sample Id: 7659383-1-BKS

Prep Method: SW5030B

Date Prep: 07.30.18

LCSD Sample Id: 7659383-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0886	89	0.0903	89	70-130	2	35	mg/kg	07.30.18 19:40	
Toluene	<0.00201	0.100	0.0932	93	0.0945	94	70-130	1	35	mg/kg	07.30.18 19:40	
Ethylbenzene	<0.00201	0.100	0.104	104	0.107	106	70-130	3	35	mg/kg	07.30.18 19:40	
m,p-Xylenes	<0.00402	0.201	0.205	102	0.210	104	70-130	2	35	mg/kg	07.30.18 19:40	
o-Xylene	<0.00201	0.100	0.100	100	0.103	102	70-130	3	35	mg/kg	07.30.18 19:40	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		105		106		70-130	%	07.30.18 19:40
4-Bromofluorobenzene	92		87		87		70-130	%	07.30.18 19:40

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



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

Analytical Method: BTEX by EPA 8021B

Seq Number: 3058124

Parent Sample Id: 593803-013

Matrix: Soil

MS Sample Id: 593803-013 S

Prep Method: SW5030B

Date Prep: 07.27.18

MSD Sample Id: 593803-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0631	63	0.0657	66	70-130	4	35	mg/kg	07.28.18 07:25	X
Toluene	<0.00199	0.0994	0.0612	62	0.0647	65	70-130	6	35	mg/kg	07.28.18 07:25	X
Ethylbenzene	<0.00199	0.0994	0.0633	64	0.0672	67	70-130	6	35	mg/kg	07.28.18 07:25	X
m,p-Xylenes	<0.00398	0.199	0.122	61	0.131	66	70-130	7	35	mg/kg	07.28.18 07:25	X
o-Xylene	<0.00199	0.0994	0.0605	61	0.0652	65	70-130	7	35	mg/kg	07.28.18 07:25	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		110		70-130	%	07.28.18 07:25
4-Bromofluorobenzene	89		85		70-130	%	07.28.18 07:25

Analytical Method: BTEX by EPA 8021B

Seq Number: 3058491

Parent Sample Id: 593803-014

Matrix: Soil

MS Sample Id: 593803-014 S

Prep Method: SW5030B

Date Prep: 07.30.18

MSD Sample Id: 593803-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0728	73	0.0705	71	70-130	3	35	mg/kg	07.30.18 20:22	
Toluene	<0.00200	0.100	0.0714	71	0.0717	72	70-130	0	35	mg/kg	07.30.18 20:22	
Ethylbenzene	<0.00200	0.100	0.0768	77	0.0760	76	70-130	1	35	mg/kg	07.30.18 20:22	
m,p-Xylenes	<0.00401	0.200	0.127	64	0.146	73	70-130	14	35	mg/kg	07.30.18 20:22	X
o-Xylene	<0.00200	0.100	0.0760	76	0.0745	75	70-130	2	35	mg/kg	07.30.18 20:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		111		70-130	%	07.30.18 20:22
4-Bromofluorobenzene	93		97		70-130	%	07.30.18 20:22

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



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Phoenix, Arizona (480-355-0900)

CHAIN OF CUSTODY

22

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes									
Company Name / Branch: TRC Environmental Corporation Company Address: 2057 Commerce Drive Midland, TX 79703 Email: jlowry@trcsolutions.com zconder@trcsolutions.com Phone No: 432-466-4450 Project Contact: Joel Lowry Sampler's Name: Becky Griffin				Project Name/Number: CWI 20504 JV-P #005 SWD Project Location: Eddy Co, NM Invoice To: COG Operating CIO Becky Haskell Invoice:				TPH 8015 M Ext Chloride E 300 BTEX 8021B Hold				W = Water S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wipe O = Oil WW = Waste Water A = Air									
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments		
1	PA-SSW	9 in.	7/25/2018	8:00	S	1									X	X	X				
2	PA-NSW	9 in.	7/25/2018	8:10	S	1									X	X	X				
3	PA-ESW	9 in.	7/25/2018	8:20	S	1									X	X	X				
4	PA-WSW	9 in.	7/25/2018	8:30	S	1									X	X	X				
5	PA-FL @ 18"	18 in.	7/25/2018	8:40	S	1									X	X	X				
6	PB-SSW	9 in.	7/25/2018	8:50	S	1									X	X	X				
7	PB-NSW	9 in.	7/25/2018	9:00	S	1									X	X	X				
8	PB-ESW	9 in.	7/25/2018	9:10	S	1									X	X	X				
9	PB-WSW	9 in.	7/25/2018	9:20	S	1									X	X	X				
10	PB-FL @ 18"	18 in.	7/25/2018	9:40	S	1									X	X	X				
11	PE-ESW	9 in.	7/25/2018	9:50	S	1									X	X	X				
12	PE-NSW	9 in.	7/25/2018	10:00	S	1									X	X	X				
13	PE-SSW	9 in.	7/25/2018	10:10	S	1									X	X	X				
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 zconder@trcsolutions.com									
☐ Next Day EMERGENCY			☐ 7 Day TAT			☐ Level III Std QC + Forms			☐ TRRP Level IV			thaskell@concho.com kblackburn@trcsolutions.com									
☐ 2 Day EMERGENCY			☐ Contract TAT			☐ Level 3 (CLP Forms)			☐ UST / RG -411			kblackburn@trcsolutions.com									
☐ 3 Day EMERGENCY						☐ TRRP Checklist						dneel2@concho.com									
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: [Signature]		Date Time: 7-24-18 11:35		Received By: [Signature]		Date Time: 7-24-18 12:02		Relinquished By: [Signature]		Date Time: 7-24-18 12:02		Received By: [Signature]		Date Time: 7-24-18 12:02							
Relinquished by: [Signature]		Date Time: 7-24-18 11:35		Received By: [Signature]		Date Time: 7-24-18 12:02		Relinquished By: [Signature]		Date Time: 7-24-18 12:02		Received By: [Signature]		Date Time: 7-24-18 12:02							
Relinquished by: [Signature]		Date Time: 7-24-18 11:35		Received By: [Signature]		Date Time: 7-24-18 12:02		Relinquished By: [Signature]		Date Time: 7-24-18 12:02		Received By: [Signature]		Date Time: 7-24-18 12:02							
Relinquished by: [Signature]		Date Time: 7-24-18 11:35		Received By: [Signature]		Date Time:															



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Page 2 of 2

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Phoenix, Arizona (480-355-0900)

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: Edley Co, NM																			
Email: jlouvy@trcsolutions.com zconder@trcsolutions.com		Phone No: 432-466-4450		Invoice To: COG Operating C/O Becky Haskell																	
Project Contact: Joel Lowry		Invoice:																			
Sampler's Name: Becky Griffin																					
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments		
1	PE-FL @ 18"	18 in.	7/25/2018	10:20	S	1									X	X	X				
2	PC-FL @ 18"	18 in.	7/25/2018	10:30	S	1									X	X	X				
3	PC-SSW	9 in.	7/25/2018	10:40	S	1									X	X	X				
4	PC-EESW	9 in.	7/25/2018	10:50	S	1									X	X	X				
5	PC-NSW	9 in.	7/25/2018	11:00	S	1									X	X	X				
6	PC-WWSW	9 in.	7/25/2018	11:30	S	1									X	X	X				
7	PD-NSW	9 in.	7/25/2018	11:10	S	1									X	X	X				
8	PD-SSW	9 in.	7/25/2018	11:20	S	1									X	X	X				
9	PF-NSW	9 in.	7/25/2018	11:40	S	1									X	X	X				
10	PF-SSW	9 in.	7/25/2018	11:50	S	1									X	X	X				
11	PG-NSW-1	9 in.	7/25/2018	12:00	S	1									X	X	X				
12	PG-SSW-1	9 in.	7/25/2018	12:10	S	1									X	X	X				
13	PG-SSW-2	9 in.	7/25/2018	12:20	S	1									X	X	X				
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)												jlouvy@trcsolutions.com			
☐ Next Day EMERGENCY		☐ 7 Day TAT		☐ Level III Std QC+ Forms		☐ TRRP Level IV												thaskell@concho.com			
☐ 2 Day EMERGENCY		☐ Contract TAT		☐ Level 3 (CLP Forms)		☐ UST / RG -411												kblackburn@trcsolutions.com			
☐ 3 Day EMERGENCY				☐ TRRP Checklist														dneel2@concho.com			
TAT Starts Day received by Lab, if received by 5:00 pm																		FED-EX / UPS: Tracking #			
Relinquished by Sampler:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished By:		Date Time:	
1. <i>[Signature]</i>		7-26-18 11:35		Becky Griffin		Becky Griffin		7/27/18		Becky Griffin		Becky Griffin		7/27/18		Becky Griffin		Becky Griffin		7/27/18	
3. Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished By:		Date Time:	
5. Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished By:		Date Time:	
5. <i>[Signature]</i>		7-26-18 11:35		Becky Griffin		Becky Griffin		7/27/18		Becky Griffin		Becky Griffin		7/27/18		Becky Griffin		Becky Griffin		7/27/18	
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.																					

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

593803



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 07/27/2018 10:35:04 AM

Work Order #: 593803

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

#1 *Temperature of cooler(s)?	.3
#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:

Connie Hernandez

Date: 07/27/2018

Checklist reviewed by:

Jessica Kramer

Date: 07/27/2018

Analytical Report 594444

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

08-AUG-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

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

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



08-AUG-18

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

Reference: XENCO Report No(s): **594444**
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) 594444. 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. 594444 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', 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

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



Sample Cross Reference 594444

TRC Solutions, Inc, Midland, TX

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WP NSW @1.5'	S	07-30-18 08:00	1.5 ft	594444-001
WP ESW -1 @1.5'	S	07-30-18 08:05	1.5 ft	594444-002
WP ESW-2 @1.5'	S	07-30-18 08:10	1.5 ft	594444-003
WP ESW-3 @1.5'	S	07-30-18 08:15	1.5 ft	594444-004
WP ESW-4 @1.5'	S	07-30-18 08:20	1.5 ft	594444-005
WP ESW-5 @1.5'	S	07-30-18 08:25	1.5 ft	594444-006
WP WSW-1 @1.5'	S	07-30-18 08:30	1.5 ft	594444-007
WP WSW-2 @1.5'	S	07-30-18 08:35	1.5 ft	594444-008
WP WSW-3 @1.5'	S	07-30-18 08:40	1.5 ft	594444-009
WP WSW-4 @1.5'	S	07-30-18 08:45	1.5 ft	594444-010
WP WSW-5 @1.5'	S	07-30-18 08:50	1.5 ft	594444-011
WP SWS-6 @1.5'	S	07-30-18 09:00	1.5 ft	594444-012



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 594444

Report Date: 08-AUG-18

Date Received: 08/02/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3058928 BTEX by EPA 8021B

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

Batch: LBA-3059000 BTEX by EPA 8021B

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



Certificate of Analysis Summary 594444

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 Aug-02-18 10:19 am

Report Date: 08-AUG-18

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	594444-001	594444-002	594444-003	594444-004	594444-005	594444-006
	<i>Field Id:</i>	WP NSW @1.5'	WP ESW -1 @1.5'	WP ESW-2 @1.5'	WP ESW-3 @1.5'	WP ESW-4 @1.5'	WP ESW-5 @1.5'
	<i>Depth:</i>	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-30-18 08:00	Jul-30-18 08:05	Jul-30-18 08:10	Jul-30-18 08:15	Jul-30-18 08:20	Jul-30-18 08:25
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-03-18 08:00	Aug-03-18 08:00	Aug-03-18 08:00	Aug-03-18 08:00	Aug-03-18 08:00	Aug-03-18 08:00
	<i>Analyzed:</i>	Aug-04-18 17:25	Aug-04-18 17:45	Aug-04-18 18:05	Aug-04-18 18:26	Aug-04-18 18:47	Aug-04-18 19:09
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
Toluene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398	<0.00399 0.00399	<0.00403 0.00403	<0.00404 0.00404	<0.00398 0.00398
o-Xylene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
Total Xylenes		<0.00201 0.00201	<0.00199 0.00199	<0.002 0.002	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
Total BTEX		<0.00201 0.00201	<0.00199 0.00199	<0.002 0.002	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Aug-06-18 11:30	Aug-06-18 11:30	Aug-06-18 11:30	Aug-06-18 11:30	Aug-06-18 11:30	Aug-06-18 11:30
	<i>Analyzed:</i>	Aug-07-18 03:31	Aug-06-18 14:24	Aug-06-18 14:31	Aug-06-18 14:53	Aug-06-18 15:00	Aug-07-18 03:38
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		13.4 5.00	278 50.0	272 50.0	313 49.9	94.4 49.9	50.0 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00
	<i>Analyzed:</i>	Aug-03-18 14:47	Aug-03-18 15:47	Aug-03-18 16:08	Aug-03-18 16:28	Aug-03-18 16:48	Aug-03-18 17:08
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		<15 15	<15 15	<15 15	<15 15	<15 15	<14.9 14.9

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 594444

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 Aug-02-18 10:19 am

Report Date: 08-AUG-18

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	594444-007	594444-008	594444-009	594444-010	594444-011	594444-012
	<i>Field Id:</i>	WP WSW-1 @1.5'	WP WSW-2 @1.5'	WP WSW-3 @1.5'	WP WSW-4 @1.5'	WP WSW-5 @1.5'	WP WSW-6 @1.5'
	<i>Depth:</i>	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-30-18 08:30	Jul-30-18 08:35	Jul-30-18 08:40	Jul-30-18 08:45	Jul-30-18 08:50	Jul-30-18 09:00
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-03-18 08:00	Aug-03-18 08:00	Aug-03-18 08:00	Aug-03-18 08:00	Aug-06-18 08:00	Aug-06-18 08:00
	<i>Analyzed:</i>	Aug-04-18 19:29	Aug-04-18 19:50	Aug-04-18 20:11	Aug-04-18 20:31	Aug-06-18 10:32	Aug-06-18 19:00
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202
m,p-Xylenes		<0.00399 0.00399	<0.00402 0.00402	<0.00401 0.00401	<0.00397 0.00397	<0.00398 0.00398	<0.00404 0.00404
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202
Total Xylenes		<0.002 0.002	<0.00201 0.00201	<0.002 0.002	<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202
Total BTEX		<0.002 0.002	<0.00201 0.00201	<0.002 0.002	<0.00198 0.00198	<0.00199 0.00199	<0.00202 0.00202
Chloride by EPA 300	<i>Extracted:</i>	Aug-06-18 11:30	Aug-06-18 11:30	Aug-06-18 11:30	Aug-06-18 11:30	Aug-06-18 14:30	Aug-06-18 14:30
	<i>Analyzed:</i>	Aug-07-18 03:45	Aug-06-18 15:20	Aug-07-18 03:51	Aug-07-18 03:58	Aug-06-18 16:45	Aug-06-18 16:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		30.2 4.99	94.4 49.8	48.6 5.00	<5.00 5.00	186 50.0	130 50.0
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00
	<i>Analyzed:</i>	Aug-03-18 17:28	Aug-03-18 17:48	Aug-03-18 18:09	Aug-03-18 18:29	Aug-03-18 19:31	Aug-03-18 19:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	30.6 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		<15 15	<15 15	<15 15	30.6 15	<15 15	<14.9 14.9

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



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594444,

Lab Batch #: 3058978

Sample: 594444-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 14:47

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.9	99.8	90	70-135	
o-Terphenyl	43.3	49.9	87	70-135	

Lab Batch #: 3058978

Sample: 594444-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 15:47

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.5	99.7	91	70-135	
o-Terphenyl	44.2	49.9	89	70-135	

Lab Batch #: 3058978

Sample: 594444-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 16:08

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.6	99.9	92	70-135	
o-Terphenyl	44.6	50.0	89	70-135	

Lab Batch #: 3058978

Sample: 594444-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 16:28

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.6	99.8	87	70-135	
o-Terphenyl	41.0	49.9	82	70-135	

Lab Batch #: 3058978

Sample: 594444-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 16:48

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.7	99.8	89	70-135	
o-Terphenyl	42.6	49.9	85	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594444,

Lab Batch #: 3058978

Sample: 594444-006 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 17:08

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.1	99.6	88	70-135	
o-Terphenyl	42.4	49.8	85	70-135	

Lab Batch #: 3058978

Sample: 594444-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 17:28

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.2	99.7	91	70-135	
o-Terphenyl	43.1	49.9	86	70-135	

Lab Batch #: 3058978

Sample: 594444-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 17:48

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.2	99.9	82	70-135	
o-Terphenyl	36.9	50.0	74	70-135	

Lab Batch #: 3058978

Sample: 594444-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 18:09

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.2	99.8	86	70-135	
o-Terphenyl	42.0	49.9	84	70-135	

Lab Batch #: 3058978

Sample: 594444-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 18:29

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.6	99.8	74	70-135	
o-Terphenyl	35.0	49.9	70	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594444,

Lab Batch #: 3058978

Sample: 594444-011 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 19:31

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.7	99.9	87	70-135	
o-Terphenyl	42.5	50.0	85	70-135	

Lab Batch #: 3058978

Sample: 594444-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 19:51

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.4	99.6	88	70-135	
o-Terphenyl	41.8	49.8	84	70-135	

Lab Batch #: 3058928

Sample: 594444-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 17:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0326	0.0300	109	70-130	
4-Bromofluorobenzene	0.0286	0.0300	95	70-130	

Lab Batch #: 3058928

Sample: 594444-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 17:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	70-130	
4-Bromofluorobenzene	0.0311	0.0300	104	70-130	

Lab Batch #: 3058928

Sample: 594444-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 18:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	70-130	
4-Bromofluorobenzene	0.0286	0.0300	95	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594444,

Lab Batch #: 3058928

Sample: 594444-004 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 18:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	70-130	
4-Bromofluorobenzene	0.0296	0.0300	99	70-130	

Lab Batch #: 3058928

Sample: 594444-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 18:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	70-130	
4-Bromofluorobenzene	0.0292	0.0300	97	70-130	

Lab Batch #: 3058928

Sample: 594444-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 19:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	70-130	
4-Bromofluorobenzene	0.0286	0.0300	95	70-130	

Lab Batch #: 3058928

Sample: 594444-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 19:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	70-130	
4-Bromofluorobenzene	0.0307	0.0300	102	70-130	

Lab Batch #: 3058928

Sample: 594444-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 19:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594444,

Lab Batch #: 3058928

Sample: 594444-009 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 20:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	70-130	

Lab Batch #: 3058928

Sample: 594444-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 20:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	70-130	
4-Bromofluorobenzene	0.0310	0.0300	103	70-130	

Lab Batch #: 3059000

Sample: 594444-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/06/18 10:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0335	0.0300	112	70-130	
4-Bromofluorobenzene	0.0315	0.0300	105	70-130	

Lab Batch #: 3059000

Sample: 594444-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/06/18 19:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	70-130	
4-Bromofluorobenzene	0.0298	0.0300	99	70-130	

Lab Batch #: 3058978

Sample: 7659794-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/03/18 13:47

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	100	99	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594444,

Project ID:

Lab Batch #: 3058928

Sample: 7659793-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/03/18 18:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	70-130	
4-Bromofluorobenzene	0.0291	0.0300	97	70-130	

Lab Batch #: 3059000

Sample: 7659843-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/06/18 10:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	70-130	
4-Bromofluorobenzene	0.0279	0.0300	93	70-130	

Lab Batch #: 3058978

Sample: 7659794-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/03/18 14:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	53.5	50.0	107	70-135	

Lab Batch #: 3058928

Sample: 7659793-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/03/18 16:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0353	0.0300	118	70-130	
4-Bromofluorobenzene	0.0277	0.0300	92	70-130	

Lab Batch #: 3059000

Sample: 7659843-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/06/18 08:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0378	0.0300	126	70-130	
4-Bromofluorobenzene	0.0303	0.0300	101	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594444,

Project ID:

Lab Batch #: 3058978

Sample: 7659794-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/03/18 14:27

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	53.1	50.0	106	70-135	

Lab Batch #: 3058928

Sample: 7659793-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/03/18 16:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0354	0.0300	118	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3059000

Sample: 7659843-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/06/18 08:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0380	0.0300	127	70-130	
4-Bromofluorobenzene	0.0309	0.0300	103	70-130	

Lab Batch #: 3058978

Sample: 594444-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 15:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	45.7	50.0	91	70-135	

Lab Batch #: 3058928

Sample: 594444-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 15:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0370	0.0300	123	70-130	
4-Bromofluorobenzene	0.0288	0.0300	96	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594444,

Project ID:

Lab Batch #: 3059000

Sample: 594444-011 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/06/18 09:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0344	0.0300	115	70-130	
4-Bromofluorobenzene	0.0327	0.0300	109	70-130	

Lab Batch #: 3058978

Sample: 594444-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 15:27

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.9	120	70-135	
o-Terphenyl	44.1	50.0	88	70-135	

Lab Batch #: 3058928

Sample: 594444-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 16:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0361	0.0300	120	70-130	
4-Bromofluorobenzene	0.0296	0.0300	99	70-130	

Lab Batch #: 3059000

Sample: 594444-011 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/06/18 09:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0360	0.0300	120	70-130	
4-Bromofluorobenzene	0.0306	0.0300	102	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 594444

Project ID:

Analyst: ALJ

Date Prepared: 08/03/2018

Date Analyzed: 08/03/2018

Lab Batch ID: 3058928

Sample: 7659793-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00202	0.101	0.101	100	0.101	0.104	103	3	70-130	35	
Toluene	<0.00202	0.101	0.0987	98	0.101	0.104	103	5	70-130	35	
Ethylbenzene	<0.00202	0.101	0.105	104	0.101	0.109	108	4	70-130	35	
m,p-Xylenes	<0.00403	0.202	0.213	105	0.202	0.222	110	4	70-130	35	
o-Xylene	<0.00202	0.101	0.100	99	0.101	0.106	105	6	70-130	35	

Analyst: ALJ

Date Prepared: 08/06/2018

Date Analyzed: 08/06/2018

Lab Batch ID: 3059000

Sample: 7659843-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00201	0.100	0.111	111	0.100	0.0919	92	19	70-130	35	
Toluene	<0.00201	0.100	0.107	107	0.100	0.0877	88	20	70-130	35	
Ethylbenzene	<0.00201	0.100	0.115	115	0.100	0.0944	94	20	70-130	35	
m,p-Xylenes	<0.00402	0.201	0.237	118	0.200	0.194	97	20	70-130	35	
o-Xylene	<0.00201	0.100	0.111	111	0.100	0.0918	92	19	70-130	35	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 594444

Project ID:

Analyst: OJS

Date Prepared: 08/06/2018

Date Analyzed: 08/06/2018

Lab Batch ID: 3059025

Sample: 7659825-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	251	100	250	251	100	0	90-110	20	

Analyst: OJS

Date Prepared: 08/06/2018

Date Analyzed: 08/06/2018

Lab Batch ID: 3059150

Sample: 7659853-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	254	102	250	252	101	1	90-110	20	

Analyst: ARM

Date Prepared: 08/03/2018

Date Analyzed: 08/03/2018

Lab Batch ID: 3058978

Sample: 7659794-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Gasoline Range Hydrocarbons (GRO)	5.96	1000	944	94	1000	993	99	5	70-135	20	
Diesel Range Organics (DRO)	3.37	1000	968	97	1000	1010	101	4	70-135	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order # : 594444

Project ID:

Lab Batch ID: 3058928

QC- Sample ID: 594444-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/04/2018

Date Prepared: 08/03/2018

Analyst: ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00199	0.0994	0.0886	89	0.100	0.0854	85	4	70-130	35	
Toluene	0.000331	0.0994	0.0867	87	0.100	0.0836	83	4	70-130	35	
Ethylbenzene	<0.00199	0.0994	0.0926	93	0.100	0.0888	89	4	70-130	35	
m,p-Xylenes	0.000392	0.199	0.187	94	0.200	0.179	89	4	70-130	35	
o-Xylene	<0.00199	0.0994	0.0893	90	0.100	0.0859	86	4	70-130	35	

Lab Batch ID: 3059000

QC- Sample ID: 594444-011 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/06/2018

Date Prepared: 08/06/2018

Analyst: ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.0930	93	0.100	0.105	105	12	70-130	35	
Toluene	<0.00200	0.0998	0.0890	89	0.100	0.0996	100	11	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.0958	96	0.100	0.107	107	11	70-130	35	
m,p-Xylenes	<0.00399	0.200	0.197	99	0.201	0.220	109	11	70-130	35	
o-Xylene	<0.00200	0.0998	0.0945	95	0.100	0.103	103	9	70-130	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order # : 594444

Project ID:

Lab Batch ID: 3059025

QC- Sample ID: 594427-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/06/2018

Date Prepared: 08/06/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	354	250	587	93	250	587	93	0	90-110	20	

Lab Batch ID: 3059025

QC- Sample ID: 594427-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/06/2018

Date Prepared: 08/06/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	145	250	389	98	250	397	101	2	90-110	20	

Lab Batch ID: 3059150

QC- Sample ID: 594445-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/06/2018

Date Prepared: 08/06/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<4.99	250	252	101	250	249	100	1	90-110	20	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order # : 594444

Project ID:

Lab Batch ID: 3059150

QC- Sample ID: 594507-017 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/06/2018

Date Prepared: 08/06/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	729	250	945	86	250	943	86	0	90-110	20	X

Lab Batch ID: 3058978

QC- Sample ID: 594444-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/03/2018

Date Prepared: 08/03/2018

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	10.9	1000	812	80	999	810	80	0	70-135	20	
Diesel Range Organics (DRO)	1.85	1000	831	83	999	827	83	0	70-135	20	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



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Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

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

Phoenix, Arizona (480-355-0900)

CHAIN OF CUSTODY

Page 1 Of 1

Client / Reporting Information						Project Information						Analytical Information								Matrix Codes															
Company Name / Branch: ITRC Environmental Corporation Company Address: 2057 Commerce Drive Midland, TX 79703 Email: jlowry@itrcsolutions.com Phone No: 432-466-4450 zcoonder@itrcsolutions.com Project Contact: Joel Lowry Becky Griffin						Project Name/Number: OW 20504 JV-P #005 SWD Project Location: Eddy Co., NM Invoice To: COG Operating C/O Becky Haskell Invoice:														Xenoco Job # 594444															
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MeOH	NONE	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments																
1	WP NSW @ 1.5'	1.5 ft	7/30/2018	8:00	S	1									X	X	X																		
2	WP ESW -1 @ 1.5'	1.5 ft	7/30/2018	8:05	S	1									X	X	X																		
3	WP ESW -2 @ 1.5'	1.5 ft	7/30/2018	8:10	S	1									X	X	X																		
4	WP ESW -3 @ 1.5'	1.5 ft	7/30/2018	8:15	S	1									X	X	X																		
5	WP ESW -4 @ 1.5'	1.5 ft	7/30/2018	8:20	S	1									X	X	X																		
6	WP ESW -5 @ 1.5'	1.5 ft	7/30/2018	8:25	S	1									X	X	X																		
7	WP WSW -1 @ 1.5'	1.5 ft	7/30/2018	8:30	S	1									X	X	X																		
8	WP WSW -2 @ 1.5'	1.5 ft	7/30/2018	8:35	S	1									X	X	X																		
9	WP WSW -3 @ 1.5'	1.5 ft	7/30/2018	8:40	S	1									X	X	X																		
10	WP WSW -4 @ 1.5'	1.5 ft	7/30/2018	8:45	S	1									X	X	X																		
11	WP WSW -5 @ 1.5'	1.5 ft	7/30/2018	8:50	S	1									X	X	X																		
12	WP WSW -6 @ 1.5'	1.5 ft	7/30/2018	9:00	S	1									X	X	X																		
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@itrcsolutions.com zcoonder@itrcsolutions.com											
Next Day EMERGENCY						☐ 7 Day TAT						☐ Level III Std QC+ Forms						☐ TRRP Level IV						thaskell@concho.com											
2 Day EMERGENCY						☐ Contract TAT						☐ Level 3 (CLP Forms)						☐ UST / RG 411						becooper@itrcsolutions.com											
3 Day EMERGENCY						☐ TRRP Checklist																		dneel2@concho.com											
TAT Starts Day received by Lab, if received by 5:00 pm																				FED-EX / UPS: Tracking #				1600039174952											
Relinquished by Sampler:																				Date Time: 8-1-18 3:02				Received By: [Signature]				Date Time: 8/2/18 10:18				Relinquished By: [Signature]			
Relinquished by:																				Date Time:				Received By: 3				Date Time:				Relinquished By: 4			
Relinquished by:																				Date Time:				Received By: 5				Date Time:				Relinquished By: 4			
Cooler Temp. 0.0																				Therm Corr Factor 1.00															

41 MAFB
TRK# 6606 3917 4952
0201

TX-US 1
79701

THU - 02 AUG 10:30A
PRIORITY OVERNIGHT

FedEx Express
110116042091UN

DEPT: REF: (432) 563-1800
INV: PO:

MIDLAND TX 79701

1211 W FLORIDA AVE
XENCO LABORATORIES
XENCO LABORATORIES

TO
HOBBS, NM 88240
UNITED STATES US
MAIL SERVICES ETC, LLC
4008 N GRIMES
**
ORIGIN ID: HOBBA (v/s) 392/-b5u

SHIP DATE: 01AUG18
ACTWT: 31.00 LB MAN
CAD: 0909328/CFFE3210
DIMS: 20x16x11 IN
BILL RECIPIENT

5551171/1E08618101UN



Client: TRC Solutions, Inc

Date/ Time Received: 08/02/2018 10:19:00 AM

Work Order #: 594444

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	0
#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)?	N/A
#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:

Brianna Teel

Date: 08/02/2018

Checklist reviewed by:

Kelsey Brooks

Date: 08/03/2018

Analytical Report 594450

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

08-AUG-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

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

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



08-AUG-18

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

Reference: XENCO Report No(s): **594450**
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) 594450. 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. 594450 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', written over a horizontal line.

Kelsey Brooks

Project Manager

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**Sample Cross Reference 594450****TRC Solutions, Inc, Midland, TX**

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
EH-1 @6"	S	07-31-18 08:00	6 In	594450-001
EH-2 @6"	S	07-31-18 08:05	6 In	594450-002
SH-1 @6"	S	07-31-18 08:10	6 In	594450-003
SH-2 @6"	S	07-31-18 08:15	6 In	594450-004
SH-3 @6"	S	07-31-18 08:20	6 In	594450-005
SH-4 @6"	S	07-31-18 08:25	6 In	594450-006
SH-5 @6"	S	07-31-18 08:30	6 In	594450-007
NH-1 @6"	S	07-31-18 08:35	6 In	594450-008
NH-2 @6"	S	07-31-18 08:40	6 In	594450-009
NH-3 @6"	S	07-31-18 08:45	6 In	594450-010
NH-4 @6"	S	07-31-18 08:50	6 In	594450-011
NH-5 @6"	S	07-31-18 09:00	6 In	594450-012

**CASE NARRATIVE****Client Name: TRC Solutions, Inc****Project Name: Owl 20504 JV-P #005 SWD**

Project ID:

Work Order Number(s): 594450

Report Date: 08-AUG-18

Date Received: 08/02/2018

Sample receipt non conformances and comments:None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3059136 BTEX by EPA 8021B

Lab Sample ID 594450-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Toluene recovered below QC limits in the Matrix Spike. Ethylbenzene, m,p-Xylenes, o-Xylene 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: 594450-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

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



Certificate of Analysis Summary 594450

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 Aug-02-18 10:20 am

Report Date: 08-AUG-18

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	594450-001	594450-002	594450-003	594450-004	594450-005	594450-006
	<i>Field Id:</i>	EH-1 @6"	EH-2 @6"	SH-1 @6"	SH-2 @6"	SH-3 @6"	SH-4 @6"
	<i>Depth:</i>	6- In	6- In	6- In	6- In	6- In	6- In
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-31-18 08:00	Jul-31-18 08:05	Jul-31-18 08:10	Jul-31-18 08:15	Jul-31-18 08:20	Jul-31-18 08:25
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-06-18 17:00	Aug-06-18 17:00	Aug-06-18 17:00	Aug-06-18 17:00	Aug-06-18 17:00	Aug-06-18 17:00
	<i>Analyzed:</i>	Aug-06-18 22:26	Aug-06-18 22:46	Aug-06-18 23:07	Aug-06-18 23:28	Aug-06-18 23:49	Aug-07-18 02:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00402 0.00402	<0.00403 0.00403	<0.00404 0.00404	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.002 0.002	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.002 0.002	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Aug-06-18 15:30	Aug-06-18 15:30	Aug-06-18 15:30	Aug-06-18 15:30	Aug-06-18 15:30	Aug-06-18 15:30
	<i>Analyzed:</i>	Aug-07-18 10:52	Aug-07-18 10:59	Aug-07-18 01:45	Aug-07-18 11:06	Aug-07-18 11:12	Aug-07-18 11:19
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		12.4 5.00	<5.00 5.00	8.91 5.00	<4.99 4.99	7.84 5.00	<5.00 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00	Aug-03-18 13:00
	<i>Analyzed:</i>	Aug-03-18 20:12	Aug-03-18 20:32	Aug-03-18 20:53	Aug-04-18 09:48	Aug-03-18 21:34	Aug-04-18 10:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	18.7 15.0	<15.0 15.0	21.6 15.0	<15.0 15.0	25.1 15.0
Diesel Range Organics (DRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<14.9 14.9	18.7 15	<15 15	21.6 15	<15 15	25.1 15

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 594450

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 Aug-02-18 10:20 am

Report Date: 08-AUG-18

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	594450-007	594450-008	594450-009	594450-010	594450-011	594450-012
	<i>Field Id:</i>	SH-5 @6"	NH-1 @6"	NH-2 @6"	NH-3 @6"	NH-4 @6"	NH-5 @6"
	<i>Depth:</i>	6- In	6- In	6- In	6- In	6- In	6- In
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-31-18 08:30	Jul-31-18 08:35	Jul-31-18 08:40	Jul-31-18 08:45	Jul-31-18 08:50	Jul-31-18 09:00
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-06-18 17:00	Aug-06-18 17:00	Aug-06-18 17:00	Aug-06-18 17:00	Aug-06-18 17:00	Aug-06-18 17:00
	<i>Analyzed:</i>	Aug-07-18 03:18	Aug-07-18 03:38	Aug-07-18 03:59	Aug-07-18 04:19	Aug-07-18 04:40	Aug-07-18 05:02
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201
m,p-Xylenes		<0.00400 0.00400	<0.00402 0.00402	<0.00404 0.00404	<0.00398 0.00398	<0.00397 0.00397	<0.00402 0.00402
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201
Total Xylenes		<0.002 0.002	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201
Total BTEX		<0.002 0.002	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201
Chloride by EPA 300	<i>Extracted:</i>	Aug-06-18 15:30	Aug-06-18 15:30	Aug-06-18 14:30	Aug-06-18 14:30	Aug-06-18 14:30	Aug-06-18 14:30
	<i>Analyzed:</i>	Aug-07-18 11:26	Aug-07-18 00:11	Aug-07-18 10:46	Aug-06-18 19:37	Aug-06-18 19:44	Aug-06-18 19:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.00 5.00	5.29 5.00	46.1 5.00	513 50.0	1320 100	5.01 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-03-18 13:00	Aug-03-18 13:00	Aug-04-18 09:00	Aug-04-18 09:00	Aug-04-18 09:00	Aug-04-18 09:00
	<i>Analyzed:</i>	Aug-03-18 22:15	Aug-03-18 22:36	Aug-04-18 12:43	Aug-04-18 13:43	Aug-04-18 14:03	Aug-04-18 14:22
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		20.2 15.0	<15.0 15.0	15.7 15.0	15.3 15.0	<14.9 14.9	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total TPH		20.2 15	<15 15	15.7 15	15.3 15	<14.9 14.9	<15 15

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



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594450,

Lab Batch #: 3058978

Sample: 594450-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 20:12

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.8	99.6	80	70-135	
o-Terphenyl	36.1	49.8	72	70-135	

Lab Batch #: 3058978

Sample: 594450-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 20:32

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.5	99.9	85	70-135	
o-Terphenyl	36.0	50.0	72	70-135	

Lab Batch #: 3058978

Sample: 594450-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 20:53

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.9	99.8	80	70-135	
o-Terphenyl	37.4	49.9	75	70-135	

Lab Batch #: 3058978

Sample: 594450-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 21:34

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.3	99.7	88	70-135	
o-Terphenyl	40.2	49.9	81	70-135	

Lab Batch #: 3058978

Sample: 594450-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 22:15

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.0	99.9	79	70-135	
o-Terphenyl	35.1	50.0	70	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594450,

Lab Batch #: 3058978

Sample: 594450-008 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 22:36

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.8	99.8	79	70-135	
o-Terphenyl	35.3	49.9	71	70-135	

Lab Batch #: 3058978

Sample: 594450-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 09:48

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.7	100	84	70-135	
o-Terphenyl	36.0	50.0	72	70-135	

Lab Batch #: 3058978

Sample: 594450-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 10:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.5	99.7	83	70-135	
o-Terphenyl	34.9	49.9	70	70-135	

Lab Batch #: 3058982

Sample: 594450-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 12:43

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.4	99.8	90	70-135	
o-Terphenyl	42.4	49.9	85	70-135	

Lab Batch #: 3058982

Sample: 594450-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 13:43

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.7	99.9	82	70-135	
o-Terphenyl	38.5	50.0	77	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594450,

Lab Batch #: 3058982

Sample: 594450-011 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 14:03

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.6	99.6	88	70-135	
o-Terphenyl	41.6	49.8	84	70-135	

Lab Batch #: 3058982

Sample: 594450-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 14:22

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.3	99.9	85	70-135	
o-Terphenyl	40.0	50.0	80	70-135	

Lab Batch #: 3059136

Sample: 594450-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/06/18 22:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	70-130	
4-Bromofluorobenzene	0.0298	0.0300	99	70-130	

Lab Batch #: 3059136

Sample: 594450-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/06/18 22:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0331	0.0300	110	70-130	
4-Bromofluorobenzene	0.0317	0.0300	106	70-130	

Lab Batch #: 3059136

Sample: 594450-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/06/18 23:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0324	0.0300	108	70-130	
4-Bromofluorobenzene	0.0322	0.0300	107	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594450,

Lab Batch #: 3059136

Sample: 594450-004 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/06/18 23:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	70-130	
4-Bromofluorobenzene	0.0309	0.0300	103	70-130	

Lab Batch #: 3059136

Sample: 594450-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/06/18 23:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	70-130	
4-Bromofluorobenzene	0.0310	0.0300	103	70-130	

Lab Batch #: 3059136

Sample: 594450-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/18 02:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0324	0.0300	108	70-130	
4-Bromofluorobenzene	0.0331	0.0300	110	70-130	

Lab Batch #: 3059136

Sample: 594450-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/18 03:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	70-130	

Lab Batch #: 3059136

Sample: 594450-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/18 03:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0325	0.0300	108	70-130	
4-Bromofluorobenzene	0.0312	0.0300	104	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594450,

Lab Batch #: 3059136

Sample: 594450-009 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/18 03:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	70-130	
4-Bromofluorobenzene	0.0323	0.0300	108	70-130	

Lab Batch #: 3059136

Sample: 594450-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/18 04:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	70-130	
4-Bromofluorobenzene	0.0309	0.0300	103	70-130	

Lab Batch #: 3059136

Sample: 594450-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/18 04:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	70-130	
4-Bromofluorobenzene	0.0314	0.0300	105	70-130	

Lab Batch #: 3059136

Sample: 594450-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/18 05:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0344	0.0300	115	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	70-130	

Lab Batch #: 3058978

Sample: 7659794-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/03/18 13:47

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	100	99	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594450,

Lab Batch #: 3058982

Sample: 7659797-1-BLK / BLK

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/04/18 11:45

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.3	100	96	70-135	
o-Terphenyl	50.7	50.0	101	70-135	

Lab Batch #: 3059136

Sample: 7659926-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/06/18 22:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	70-130	
4-Bromofluorobenzene	0.0277	0.0300	92	70-130	

Lab Batch #: 3058978

Sample: 7659794-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/03/18 14:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	53.5	50.0	107	70-135	

Lab Batch #: 3058982

Sample: 7659797-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/04/18 12:04

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	55.0	50.0	110	70-135	

Lab Batch #: 3059136

Sample: 7659926-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/06/18 20:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0385	0.0300	128	70-130	
4-Bromofluorobenzene	0.0312	0.0300	104	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594450,

Lab Batch #: 3058978

Sample: 7659794-1-BSD / BSD

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/03/18 14:27

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	53.1	50.0	106	70-135	

Lab Batch #: 3058982

Sample: 7659797-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/04/18 12:24

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	53.9	50.0	108	70-135	

Lab Batch #: 3059136

Sample: 7659926-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/06/18 20:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0344	0.0300	115	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	70-130	

Lab Batch #: 3058978

Sample: 594444-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 15:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	45.7	50.0	91	70-135	

Lab Batch #: 3058982

Sample: 594450-009 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 13:03

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	99.8	121	70-135	
o-Terphenyl	45.5	49.9	91	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 594450,

Lab Batch #: 3059136

Sample: 594450-001 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/06/18 21:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0389	0.0300	130	70-130	
4-Bromofluorobenzene	0.0296	0.0300	99	70-130	

Lab Batch #: 3058978

Sample: 594444-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 15:27

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	120	99.9	120	70-135	
o-Terphenyl	44.1	50.0	88	70-135	

Lab Batch #: 3058982

Sample: 594450-009 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/04/18 13:23

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	99.7	127	70-135	
o-Terphenyl	50.2	49.9	101	70-135	

Lab Batch #: 3059136

Sample: 594450-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/06/18 21:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0381	0.0300	127	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 594450

Project ID:

Analyst: ALJ

Date Prepared: 08/06/2018

Date Analyzed: 08/06/2018

Lab Batch ID: 3059136

Sample: 7659926-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00202	0.101	0.109	108	0.100	0.115	115	5	70-130	35	
Toluene	<0.00202	0.101	0.104	103	0.100	0.108	108	4	70-130	35	
Ethylbenzene	<0.00202	0.101	0.111	110	0.100	0.118	118	6	70-130	35	
m,p-Xylenes	<0.00403	0.202	0.231	114	0.200	0.246	123	6	70-130	35	
o-Xylene	<0.00202	0.101	0.111	110	0.100	0.118	118	6	70-130	35	

Analyst: OJS

Date Prepared: 08/06/2018

Date Analyzed: 08/06/2018

Lab Batch ID: 3059150

Sample: 7659853-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	254	102	250	252	101	1	90-110	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 594450

Project ID:

Analyst: OJS

Date Prepared: 08/06/2018

Date Analyzed: 08/06/2018

Lab Batch ID: 3059153

Sample: 7659855-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	257	103	250	266	106	3	90-110	20	

Analyst: ARM

Date Prepared: 08/03/2018

Date Analyzed: 08/03/2018

Lab Batch ID: 3058978

Sample: 7659794-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Gasoline Range Hydrocarbons (GRO)	5.96	1000	944	94	1000	993	99	5	70-135	20	
Diesel Range Organics (DRO)	3.37	1000	968	97	1000	1010	101	4	70-135	20	

Analyst: ARM

Date Prepared: 08/04/2018

Date Analyzed: 08/04/2018

Lab Batch ID: 3058982

Sample: 7659797-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Gasoline Range Hydrocarbons (GRO)	4.91	1000	965	97	1000	901	90	7	70-135	20	
Diesel Range Organics (DRO)	2.55	1000	1010	101	1000	937	94	7	70-135	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 594450

Project ID:

Lab Batch ID: 3059136

QC- Sample ID: 594450-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/06/2018

Date Prepared: 08/06/2018

Analyst: ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00199	0.0996	0.0787	79	0.0994	0.0796	80	1	70-130	35	
Toluene	<0.00199	0.0996	0.0678	68	0.0994	0.0696	70	3	70-130	35	X
Ethylbenzene	<0.00199	0.0996	0.0668	67	0.0994	0.0666	67	0	70-130	35	X
m,p-Xylenes	<0.00398	0.199	0.134	67	0.199	0.132	66	2	70-130	35	X
o-Xylene	<0.00199	0.0996	0.0638	64	0.0994	0.0628	63	2	70-130	35	X

Lab Batch ID: 3059150

QC- Sample ID: 594445-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/06/2018

Date Prepared: 08/06/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<4.99	250	252	101	250	249	100	1	90-110	20	

Lab Batch ID: 3059150

QC- Sample ID: 594507-017 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/06/2018

Date Prepared: 08/06/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	729	250	945	86	250	943	86	0	90-110	20	X

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order # : 594450

Project ID:

Lab Batch ID: 3059153

QC- Sample ID: 594450-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/07/2018

Date Prepared: 08/06/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	8.91	250	255	98	250	253	98	1	90-110	20	

Lab Batch ID: 3059153

QC- Sample ID: 594450-008 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/07/2018

Date Prepared: 08/06/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	5.29	250	265	104	250	265	104	0	90-110	20	

Lab Batch ID: 3058978

QC- Sample ID: 594444-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/03/2018

Date Prepared: 08/03/2018

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	10.9	1000	812	80	999	810	80	0	70-135	20	
Diesel Range Organics (DRO)	1.85	1000	831	83	999	827	83	0	70-135	20	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order # : 594450

Project ID:

Lab Batch ID: 3058982

QC- Sample ID: 594450-009 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/04/2018

Date Prepared: 08/04/2018

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	15.7	998	882	87	997	881	87	0	70-135	20	
Diesel Range Organics (DRO)	3.05	998	938	94	997	984	98	5	70-135	20	

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

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

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

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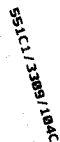
www.xenco.com

Phoenix, Arizona (480-355-0900)

Page 1 Of 1

CHAIN OF CUSTODY

[illegible]





Client: TRC Solutions, Inc

Date/ Time Received: 08/02/2018 10:20:00 AM

Work Order #: 594450

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	0
#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)?	N/A
#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:

Brianna Teel

Date: 08/02/2018

Checklist reviewed by:

Kelsey Brooks

Date: 08/03/2018

Analytical Report 594455

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-9 #005 SWD

08-AUG-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

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

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



08-AUG-18

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

Reference: XENCO Report No(s): **594455**
Owl 20504 JV-9 #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) 594455. 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. 594455 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', written over a horizontal line.

Kelsey Brooks

Project Manager

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Sample Cross Reference 594455



TRC Solutions, Inc, Midland, TX

Owl 20504 JV-9 #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PG NSW-2 @9"	S	07-31-18 09:30	9 In	594455-001



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-9 #005 SWD

Project ID:

Work Order Number(s): 594455

Report Date: 08-AUG-18

Date Received: 08/02/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3059258 BTEX by EPA 8021B

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



Certificate of Analysis Summary 594455

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-9 #005 SWD

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co., NM

Date Received in Lab: Thu Aug-02-18 10:20 am

Report Date: 08-AUG-18

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	594455-001					
	Field Id:	PG NSW-2 @9"					
	Depth:	9- In					
	Matrix:	SOIL					
	Sampled:	Jul-31-18 09:30					
BTEX by EPA 8021B	Extracted:	Aug-07-18 10:08					
	Analyzed:	Aug-07-18 17:56					
	Units/RL:	mg/kg RL					
Benzene		<0.00201 0.00201					
Toluene		<0.00201 0.00201					
Ethylbenzene		<0.00201 0.00201					
m,p-Xylenes		<0.00402 0.00402					
o-Xylene		<0.00201 0.00201					
Total Xylenes		<0.00201 0.00201					
Total BTEX		<0.00201 0.00201					
Chloride by EPA 300	Extracted:	Aug-06-18 14:30					
	Analyzed:	Aug-07-18 10:39					
	Units/RL:	mg/kg RL					
Chloride		57.4 5.00					
TPH by SW8015 Mod	Extracted:	Aug-02-18 14:00					
	Analyzed:	Aug-03-18 02:28					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		16.4 15.0					
Diesel Range Organics (DRO)		<15.0 15.0					
Oil Range Hydrocarbons (ORO)		<15.0 15.0					
Total TPH		16.4 15					

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



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-9 #005 SWD

Work Orders : 594455,

Lab Batch #: 3058799

Sample: 594455-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/03/18 02:28

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.2	99.7	88	70-135	
o-Terphenyl	40.7	49.9	82	70-135	

Lab Batch #: 3059258

Sample: 594455-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/18 17:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	70-130	
4-Bromofluorobenzene	0.0298	0.0300	99	70-130	

Lab Batch #: 3058799

Sample: 7659678-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/02/18 17:58

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.8	100	98	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

Lab Batch #: 3059258

Sample: 7659973-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/07/18 08:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	70-130	
4-Bromofluorobenzene	0.0301	0.0300	100	70-130	

Lab Batch #: 3058799

Sample: 7659678-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/02/18 18:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	54.2	50.0	108	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-9 #005 SWD

Work Orders : 594455,

Lab Batch #: 3059258

Sample: 7659973-1-BKS / BKS

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/07/18 07:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0353	0.0300	118	70-130	
4-Bromofluorobenzene	0.0300	0.0300	100	70-130	

Lab Batch #: 3058799

Sample: 7659678-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/02/18 18:38

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	100	122	70-135	
o-Terphenyl	52.0	50.0	104	70-135	

Lab Batch #: 3059258

Sample: 7659973-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/07/18 07:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0353	0.0300	118	70-130	
4-Bromofluorobenzene	0.0289	0.0300	96	70-130	

Lab Batch #: 3058799

Sample: 594409-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/02/18 19:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.8	129	70-135	
o-Terphenyl	48.8	49.9	98	70-135	

Lab Batch #: 3059258

Sample: 594619-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/18 07:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0339	0.0300	113	70-130	
4-Bromofluorobenzene	0.0296	0.0300	99	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-9 #005 SWD

Work Orders : 594455,

Lab Batch #: 3058799

Sample: 594409-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/02/18 19:37

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.9	118	70-135	
o-Terphenyl	50.9	50.0	102	70-135	

Lab Batch #: 3059258

Sample: 594619-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/18 08:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0379	0.0300	126	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: Owl 20504 JV-9 #005 SWD

Work Order #: 594455

Project ID:

Analyst: ALJ

Date Prepared: 08/07/2018

Date Analyzed: 08/07/2018

Lab Batch ID: 3059258

Sample: 7659973-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00200	0.100	0.103	103	0.101	0.109	108	6	70-130	35	
Toluene	<0.00200	0.100	0.0973	97	0.101	0.103	102	6	70-130	35	
Ethylbenzene	<0.00200	0.100	0.103	103	0.101	0.108	107	5	70-130	35	
m,p-Xylenes	<0.00401	0.200	0.208	104	0.202	0.218	108	5	70-130	35	
o-Xylene	<0.00200	0.100	0.100	100	0.101	0.105	104	5	70-130	35	

Analyst: OJS

Date Prepared: 08/06/2018

Date Analyzed: 08/06/2018

Lab Batch ID: 3059150

Sample: 7659853-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	254	102	250	252	101	1	90-110	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Owl 20504 JV-9 #005 SWD

Work Order #: 594455

Project ID:

Analyst: ARM

Date Prepared: 08/02/2018

Date Analyzed: 08/02/2018

Lab Batch ID: 3058799

Sample: 7659678-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	5.92	1000	1040	104	1000	952	95	9	70-135	20	
Diesel Range Organics (DRO)	4.16	1000	1080	108	1000	976	98	10	70-135	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-9 #005 SWD

Work Order #: 594455

Project ID:

Lab Batch ID: 3059258

QC- Sample ID: 594619-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/07/2018

Date Prepared: 08/07/2018

Analyst: ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.0672	67	0.100	0.0861	86	25	70-130	35	X
Toluene	<0.00200	0.0998	0.0635	64	0.100	0.0800	80	23	70-130	35	X
Ethylbenzene	<0.00200	0.0998	0.0660	66	0.100	0.0820	82	22	70-130	35	X
m,p-Xylenes	<0.00399	0.200	0.131	66	0.200	0.161	81	21	70-130	35	X
o-Xylene	<0.00200	0.0998	0.0644	65	0.100	0.0783	78	19	70-130	35	X

Lab Batch ID: 3059150

QC- Sample ID: 594445-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/06/2018

Date Prepared: 08/06/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<4.99	250	252	101	250	249	100	1	90-110	20	

Lab Batch ID: 3059150

QC- Sample ID: 594507-017 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/06/2018

Date Prepared: 08/06/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	729	250	945	86	250	943	86	0	90-110	20	X

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-9 #005 SWD

Work Order # : 594455

Project ID:

Lab Batch ID: 3058799

QC- Sample ID: 594409-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/02/2018

Date Prepared: 08/02/2018

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	7.88	998	893	89	999	927	92	4	70-135	20	
Diesel Range Organics (DRO)	2.16	998	906	91	999	959	96	6	70-135	20	

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

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

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



Setting the Standard since 1993
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

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

Phoenix, Arizona (480-355-0900)

CHAIN OF CUSTODY

Page 1 Of 1

Client / Reporting Information						Project Information											
Company Name / Branch: TRC Environmental Corporation Company Address: 2057 Commerce Drive Midland, TX 79703						Project Name/Number: OWL 20504 JV-P #005 SWD Project Location: Eddy Co., NM											
Email: llowry@trcsolutions.com zcoonder@trcsolutions.com Joel Lowry Becky Griffin						Phone No.: 432-466-4460 Invoice To: COG Operating C/O Becky Haskell Invoices:											
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MeOH	NONE		Analytical Information	Matrix Codes
1	PG NSW -2 @ 9 "	9in	7/31/2018	9:30	S	1									X	TPH 8015 M Ext	
2															X	Chloride E 300	
3															X	BTEX 8021B	
4																Hold	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
Turnaround Time (Business days)																Notes:	
Same Day TAT		☒ 6 Day TAT														llowry@trcsolutions.com zcoonder@trcsolutions.com	
Next Day EMERGENCY		☐ 7 Day TAT														haskell@concho.com	
2 Day EMERGENCY		☐ Contract TAT														ccooper@trcsolutions.com	
3 Day EMERGENCY																dineal@concho.com	
TAT Starts Day received by Lab, if received by 5:00 pm																FED-EX / UPS: Tracking # 6266891MGSZ	
Relinquished by Sampler		Date Time: 8-1-18		Received By: [Signature]		Date Time: 8-1-18		Relinquished By: [Signature]		Date Time: 8-1-18		Received By: [Signature]		On Ice: [X] Cooler Temp: [] Trip Date: 8-1-18			
Relinquished by: [Signature]		Date Time: 8-1-18		Received By: [Signature]		Date Time: 8-1-18		Relinquished By: [Signature]		Date Time: 8-1-18		Received By: [Signature]		On Ice: [X] Cooler Temp: [] Trip Date: 8-1-18			
Relinquished by: [Signature]		Date Time: 8-1-18		Received By: [Signature]		Date Time: 8-1-18		Relinquished By: [Signature]		Date Time: 8-1-18		Received By: [Signature]		On Ice: [X] Cooler Temp: [] Trip Date: 8-1-18			
Relinquished by: [Signature]		Date Time: 8-1-18		Received By: [Signature]		Date Time: 8-1-18		Relinquished By: [Signature]		Date Time: 8-1-18		Received By: [Signature]		On Ice: [X] Cooler Temp: [] Trip Date: 8-1-18			

TX-US 1 79701

41 MAF

TRK# 6606 3917 4952

THU - 02 AUG 10:30A
PRIORITY OVERNIGHT

0201

EXPRESS

318118942908101

DEPT: REF: INV: (432) 563-1800

MIDLAND TX 79701

XENCO LABORATORIES
1211 W FLORIDA AVE
XENCO LABORATORIES
UNITED STATES US

TO
HOBBS, NM 88240
MAIL SERVICES ETC, LLC
4008 N GRIMES
**
ORIGIN ID: HOBBS (S/B) 3927-3500

SHIP DATE: 01AUG18
ACTWGT: 31.00 LB MAN
CDD: 0909328/CFE3210
DIMS: 20x16x11 IN
BILL RECIPIENT

551C1C13/3888/184C



Client: TRC Solutions, Inc

Date/ Time Received: 08/02/2018 10:20:00 AM

Work Order #: 594455

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	0
#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)?	N/A
#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:

Brianna Teel

Date: 08/02/2018

Checklist reviewed by:

Kelsey Brooks

Date: 08/03/2018

Analytical Report 596205

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

26-FEB-19

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

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

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429), North Carolina (483)

Xenco-Lakeland: Florida (E84098)



26-FEB-19

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

Reference: XENCO Report No(s): **596205**
Owl 20504 JV-P #005 SWD
Project Address:

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) 596205. 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. 596205 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 that reads 'Holly Taylor'.

Holly Taylor
Project Manager

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

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

**Sample Cross Reference 596205****TRC Solutions, Inc, Midland, TX**

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
NH-4 b@ 6"	S	08-16-18 12:00	6 In	596205-001
PC WSW @1'	S	08-16-18 10:00	1 ft	596205-002



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 596205

Report Date: 26-FEB-19

Date Received: 08/17/2018

Sample receipt non conformances and comments:

2/26/2019 1.001 Revised to correct sample ID on 002 per Jared Stoffel.

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 596205

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD



Project Id:

Contact: Joel Lowry

Project Location:

Date Received in Lab: Fri Aug-17-18 11:24 am

Report Date: 26-FEB-19

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	596205-001	596205-002				
	Field Id:	NH-4 b@ 6"	PC WSW @1'				
	Depth:	6- In	1- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Aug-16-18 12:00	Aug-16-18 10:00				
Chloride by EPA 300	Extracted:	Aug-20-18 08:30	Aug-20-18 11:00				
	Analyzed:	Aug-20-18 12:03	Aug-20-18 14:15				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		399 49.7	63.8 49.6				

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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Holly Taylor
Project Manager



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



BS / BSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 596205, 596205

Project ID:

Analyst: SCM

Date Prepared: 08/20/2018

Date Analyzed: 08/20/2018

Lab Batch ID: 3060588

Sample: 7660710-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	245	98	250	245	98	0	90-110	20	

Analyst: SCM

Date Prepared: 08/20/2018

Date Analyzed: 08/20/2018

Lab Batch ID: 3060590

Sample: 7660748-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<4.99	250	245	98	250	245	98	0	90-110	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 596205

Project ID:

Lab Batch ID: 3060588

QC- Sample ID: 596269-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/20/2018

Date Prepared: 08/20/2018

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<4.97	249	262	105	249	260	104	1	90-110	20	

Lab Batch ID: 3060588

QC- Sample ID: 596269-011 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/20/2018

Date Prepared: 08/20/2018

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<4.99	250	249	100	250	249	100	0	90-110	20	

Lab Batch ID: 3060590

QC- Sample ID: 596183-035 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/20/2018

Date Prepared: 08/20/2018

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	8.96	248	266	104	248	266	104	0	90-110	20	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order # : 596205

Project ID:

Lab Batch ID: 3060590

QC- Sample ID: 596269-018 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/20/2018

Date Prepared: 08/20/2018

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	39.7	249	293	102	249	294	102	0	90-110	20	

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

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

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

XENCO
Laboratories

☐ 4143 Greenbriar Drive, Stafford, TX 77477 281-240-4200
☐ 5332, Blackberry Drive, San Antonio, TX 78238 210-509-3334

☐ 9701 Harry Hines Blvd., Dallas, TX 75220 214-902-0300
☐ 12600 West I-20 East, Odessa, TX 79765 432-563-1800

Serial #: 330937 Page of

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Company/City ITC SOLUTIONS		Phone 432-466-4450	
Project Name-Location CLP 20504 JV-P # 0053 USD		Project ID	
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM) JOE LEBUSKY	
E-mail Results to ☒ PM and ☒ COPERATEL@ITCSOLUTIONS.COM		ZC@ITCSOLUTIONS.COM ZHASKEL@ITCSOLUTIONS.COM	
Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Bill to: COG OPERATING CO/RECKLY HUSKEL	
Quote/Pricing: P.O. No: ☐ Call for P.O.			
Reg Program: ☒ DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP			
OAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:			
Special DLS (GW DW OAPP MDLs RLS See Lab PM Included Call PM)			
Sampler Name BECKLY	Signature Beckly		
Sample ID	Sampling Date	Time	Depth ft' in" m
1 NH-1606"	8-16-18	12:00	6" 5
2 PD WSW01'	8-16-18	10:00	1' 5
3			
4			
5			
6			
7			
8			
9			
10			
Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time
1 BECKLY	8-16-18 3:58	BECKLY	8-16-18 3:58
2 BECKLY	8-16-18 3:58	BECKLY	8-16-18 3:58
3 BECKLY	8-16-18 3:58	BECKLY	8-16-18 3:58
4 BECKLY	8-16-18 3:58	BECKLY	8-16-18 3:58
5 BECKLY	8-16-18 3:58	BECKLY	8-16-18 3:58
6 BECKLY	8-16-18 3:58	BECKLY	8-16-18 3:58
7 BECKLY	8-16-18 3:58	BECKLY	8-16-18 3:58
8 BECKLY	8-16-18 3:58	BECKLY	8-16-18 3:58
9 BECKLY	8-16-18 3:58	BECKLY	8-16-18 3:58
10 BECKLY	8-16-18 3:58	BECKLY	8-16-18 3:58
Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O)		Total Containers per COC: 1.5	
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other		Cooler Temp: 1.5 °C	
Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)		Other: CHLORIDE E 300	
Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates.		TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific.	
subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.		It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.	
TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d		Addn: PAH above mg/L W, mg/Kg S Highest Hit	
Hold Samples (Surcharges will apply and are pre-approved)		Sample Clean-ups are pre-approved as needed	
Addn: Date Rcv. by: From:		Remarks	

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 08/17/2018 11:24:00 AM

Work Order #: 596205

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	No
#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)?	N/A
#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:

Brianna Teel

Date: 08/17/2018

Checklist reviewed by:

Kelsey Brooks

Date: 08/17/2018

Analytical Report 597263

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

06-SEP-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-16)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

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

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



06-SEP-18

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

Reference: XENCO Report No(s): **597263**
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) 597263. 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. 597263 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', 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

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

**Sample Cross Reference 597263****TRC Solutions, Inc, Midland, TX**

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SSW #8 @ 3'	S	08-22-18 14:00	3 ft	597263-001
SSW #10 @ 3'	S	08-22-18 14:15	3 ft	597263-002
WSW #5 @ 3'	S	08-22-18 14:30	3 ft	597263-003
WSW #6 @ 3'	S	08-22-18 14:45	3 ft	597263-004
WSW H @ 3'	S	08-22-18 15:00	3 ft	597263-005
SSW H @ 3'	S	08-22-18 15:15	3 ft	597263-006



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:

Work Order Number(s): 597263

Report Date: 06-SEP-18

Date Received: 08/28/2018

Sample receipt non conformance and comments:

None

Sample receipt non conformance and comments per sample:

None

Analytical non conformance and comments:

Batch: LBA-3062194 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 597553-001 S.

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

Batch: LBA-3062196 BTEX by EPA 8021B

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

Batch: LBA-3062203 BTEX by EPA 8021B

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



Certificate of Analysis Summary 597263

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: Tue Aug-28-18 01:41 pm

Report Date: 06-SEP-18

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	597263-001	597263-002	597263-003	597263-004	597263-005	597263-006
	<i>Field Id:</i>	SSW #8 @ 3'	SSW #10 @ 3'	WSW #5 @ 3'	WSW #6 @ 3'	WSW H @ 3'	SSW H @ 3'
	<i>Depth:</i>	3- ft	3- ft	3- ft	3- ft	3- ft	3- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-22-18 14:00	Aug-22-18 14:15	Aug-22-18 14:30	Aug-22-18 14:45	Aug-22-18 15:00	Aug-22-18 15:15
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-04-18 10:00	Sep-04-18 10:00	Sep-05-18 09:30	Sep-05-18 09:30	Sep-05-18 09:15	Sep-05-18 09:15
	<i>Analyzed:</i>	Sep-05-18 15:51	Sep-05-18 15:51	Sep-05-18 16:27	Sep-05-18 16:27	Sep-05-18 14:48	Sep-05-18 15:10
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00402 0.00402	<0.00403 0.00403	<0.00402 0.00402	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.002 0.002	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.002 0.002	<0.00199 0.00199
Total BTEX		<0.002 0.002	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.002 0.002	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Aug-29-18 08:30	Aug-29-18 08:30	Aug-29-18 08:30	Aug-29-18 08:30	Aug-29-18 08:30	Aug-29-18 08:30
	<i>Analyzed:</i>	Aug-29-18 17:43	Aug-30-18 10:57	Aug-29-18 18:05	Aug-29-18 18:10	Aug-29-18 18:15	Aug-29-18 18:20
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		84.2 49.5	43.7 4.95	519 50.0	206 50.0	82.5 49.6	103 50.0
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-28-18 14:00	Aug-28-18 14:00	Aug-28-18 14:00	Aug-28-18 14:00	Aug-28-18 14:00	Aug-28-18 14:00
	<i>Analyzed:</i>	Aug-28-18 20:18	Aug-28-18 20:38	Aug-28-18 20:58	Aug-28-18 21:18	Aug-28-18 21:38	Aug-28-18 21:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		<15 15	<15 15	<15 15	<15 15	<15 15	<14.9 14.9

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



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 597263,

Lab Batch #: 3061546

Sample: 597263-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/18 20:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.3	100	94	70-135	
o-Terphenyl	46.4	50.0	93	70-135	

Lab Batch #: 3061546

Sample: 597263-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/18 20:38

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.0	99.7	94	70-135	
o-Terphenyl	46.9	49.9	94	70-135	

Lab Batch #: 3061546

Sample: 597263-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/18 20:58

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.0	99.7	88	70-135	
o-Terphenyl	44.1	49.9	88	70-135	

Lab Batch #: 3061546

Sample: 597263-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/18 21:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.0	99.7	90	70-135	
o-Terphenyl	45.2	49.9	91	70-135	

Lab Batch #: 3061546

Sample: 597263-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/18 21:38

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.7	99.9	92	70-135	
o-Terphenyl	46.1	50.0	92	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 597263,

Lab Batch #: 3061546

Sample: 597263-006 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/18 21:58

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.3	99.6	94	70-135	
o-Terphenyl	45.9	49.8	92	70-135	

Lab Batch #: 3062196

Sample: 597263-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/05/18 14:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0349	0.0300	116	70-130	
4-Bromofluorobenzene	0.0235	0.0300	78	70-130	

Lab Batch #: 3062196

Sample: 597263-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/05/18 15:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0380	0.0300	127	70-130	
4-Bromofluorobenzene	0.0233	0.0300	78	70-130	

Lab Batch #: 3062194

Sample: 597263-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	70-130	
4-Bromofluorobenzene	0.0337	0.0300	112	70-130	

Lab Batch #: 3062194

Sample: 597263-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	70-130	
4-Bromofluorobenzene	0.0292	0.0300	97	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 597263,

Lab Batch #: 3062203

Sample: 597263-003 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/05/18 16:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	70-130	
4-Bromofluorobenzene	0.0320	0.0300	107	70-130	

Lab Batch #: 3062203

Sample: 597263-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/05/18 16:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	70-130	
4-Bromofluorobenzene	0.0387	0.0300	129	70-130	

Lab Batch #: 3061546

Sample: 7661323-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/28/18 14:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.1	100	95	70-135	
o-Terphenyl	48.0	50.0	96	70-135	

Lab Batch #: 3062196

Sample: 7661718-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/05/18 13:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0341	0.0300	114	70-130	
4-Bromofluorobenzene	0.0211	0.0300	70	70-130	

Lab Batch #: 3062194

Sample: 7661715-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0265	0.0300	88	70-130	
4-Bromofluorobenzene	0.0272	0.0300	91	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 597263,

Lab Batch #: 3062203

Sample: 7661720-1-BLK / BLK

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/05/18 16:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	70-130	
4-Bromofluorobenzene	0.0286	0.0300	95	70-130	

Lab Batch #: 3061546

Sample: 7661323-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/28/18 14:38

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	61.0	50.0	122	70-135	

Lab Batch #: 3062196

Sample: 7661718-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/05/18 10:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0253	0.0300	84	70-130	
4-Bromofluorobenzene	0.0358	0.0300	119	70-130	

Lab Batch #: 3062194

Sample: 7661715-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	70-130	
4-Bromofluorobenzene	0.0259	0.0300	86	70-130	

Lab Batch #: 3062203

Sample: 7661720-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/05/18 16:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0252	0.0300	84	70-130	
4-Bromofluorobenzene	0.0258	0.0300	86	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 597263,

Lab Batch #: 3061546

Sample: 7661323-1-BSD / BSD

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/28/18 14:58

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	48.8	50.0	98	70-135	

Lab Batch #: 3062196

Sample: 7661718-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/05/18 10:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0244	0.0300	81	70-130	
4-Bromofluorobenzene	0.0368	0.0300	123	70-130	

Lab Batch #: 3062194

Sample: 7661715-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	70-130	
4-Bromofluorobenzene	0.0239	0.0300	80	70-130	

Lab Batch #: 3062203

Sample: 7661720-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/05/18 16:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	70-130	
4-Bromofluorobenzene	0.0299	0.0300	100	70-130	

Lab Batch #: 3061546

Sample: 597133-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/18 15:38

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.7	112	70-135	
o-Terphenyl	49.6	49.9	99	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 597263,

Lab Batch #: 3062196

Sample: 596925-001 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/05/18 11:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0279	0.0300	93	70-130	
4-Bromofluorobenzene	0.0377	0.0300	126	70-130	

Lab Batch #: 3062194

Sample: 597553-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	70-130	
4-Bromofluorobenzene	0.0694	0.0300	231	70-130	**

Lab Batch #: 3062203

Sample: 597513-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/05/18 16:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	70-130	
4-Bromofluorobenzene	0.0281	0.0300	94	70-130	

Lab Batch #: 3061546

Sample: 597133-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/18 15:58

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.9	112	70-135	
o-Terphenyl	46.9	50.0	94	70-135	

Lab Batch #: 3062196

Sample: 596925-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/05/18 11:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0346	0.0300	115	70-130	
4-Bromofluorobenzene	0.0256	0.0300	85	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Orders : 597263,

Project ID:

Lab Batch #: 3062203

Sample: 597513-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/05/18 16:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	70-130	
4-Bromofluorobenzene	0.0266	0.0300	89	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 597263

Project ID:

Analyst: ALJ

Date Prepared: 09/04/2018

Date Analyzed: 09/05/2018

Lab Batch ID: 3062194

Sample: 7661715-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00200	0.100	0.0904	90	0.101	0.110	109	20	70-130	35	
Toluene	0.000646	0.100	0.0868	87	0.101	0.0982	97	12	70-130	35	
Ethylbenzene	<0.00200	0.100	0.101	101	0.101	0.120	119	17	70-130	35	
m,p-Xylenes	<0.00401	0.200	0.185	93	0.201	0.222	110	18	70-130	35	
o-Xylene	<0.00200	0.100	0.0846	85	0.101	0.0997	99	16	70-130	35	

Analyst: ALJ

Date Prepared: 09/05/2018

Date Analyzed: 09/05/2018

Lab Batch ID: 3062196

Sample: 7661718-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00202	0.101	0.0802	79	0.100	0.0794	79	1	70-130	35	
Toluene	0.000587	0.101	0.0798	79	0.100	0.0847	85	6	70-130	35	
Ethylbenzene	<0.000569	0.101	0.0823	81	0.100	0.0866	87	5	70-130	35	
m,p-Xylenes	<0.00102	0.202	0.162	80	0.200	0.176	88	8	70-130	35	
o-Xylene	0.000348	0.101	0.0811	80	0.100	0.0877	88	8	70-130	35	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 597263

Project ID:

Analyst: ALJ

Date Prepared: 09/05/2018

Date Analyzed: 09/05/2018

Lab Batch ID: 3062203

Sample: 7661720-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00201	0.101	0.0841	83	0.101	0.0870	86	3	70-130	35	
Toluene	<0.00201	0.101	0.0879	87	0.101	0.0919	91	4	70-130	35	
Ethylbenzene	<0.00201	0.101	0.108	107	0.101	0.114	113	5	70-130	35	
m,p-Xylenes	<0.00402	0.201	0.203	101	0.202	0.215	106	6	70-130	35	
o-Xylene	<0.00201	0.101	0.0952	94	0.101	0.102	101	7	70-130	35	

Analyst: SCM

Date Prepared: 08/29/2018

Date Analyzed: 08/29/2018

Lab Batch ID: 3061678

Sample: 7661340-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	252	101	250	251	100	0	90-110	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 597263

Project ID:

Analyst: ARM

Date Prepared: 08/28/2018

Date Analyzed: 08/28/2018

Lab Batch ID: 3061546

Sample: 7661323-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1050	105	1000	923	92	13	70-135	20	
Diesel Range Organics (DRO)	<15.0	1000	1110	111	1000	962	96	14	70-135	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 597263

Lab Batch #: 3062194

Date Analyzed: 09/05/2018

QC- Sample ID: 597553-001 S

Reporting Units: mg/kg

Date Prepared: 09/04/2018

Batch #: 1

Project ID:

Analyst: ALJ

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
BTEX by EPA 8021B	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Benzene	0.00204	0.104	0.0825	77	70-130	
Toluene	0.0594	0.104	0.175	111	70-130	
Ethylbenzene	0.100	0.104	0.181	78	70-130	
m,p-Xylenes	0.220	0.209	0.339	57	70-130	X
o-Xylene	0.0963	0.104	0.148	50	70-130	X

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$ Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 597263

Project ID:

Lab Batch ID: 3062196

QC- Sample ID: 596925-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 09/05/2018

Date Prepared: 09/05/2018

Analyst: ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000387	0.101	0.0564	56	0.0996	0.0401	40	34	70-130	35	X
Toluene	<0.000458	0.101	0.0566	56	0.0996	0.0386	39	38	70-130	35	XF
Ethylbenzene	<0.000568	0.101	0.0570	56	0.0996	0.0376	38	41	70-130	35	XF
m,p-Xylenes	<0.00102	0.201	0.114	57	0.199	0.0733	37	43	70-130	35	XF
o-Xylene	<0.00201	0.101	0.0560	55	0.0996	0.0365	37	42	70-130	35	XF

Lab Batch ID: 3062203

QC- Sample ID: 597513-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 09/05/2018

Date Prepared: 09/05/2018

Analyst: ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00199	0.0996	0.0834	84	0.100	0.0788	79	6	70-130	35	
Toluene	<0.00199	0.0996	0.0830	83	0.100	0.0782	78	6	70-130	35	
Ethylbenzene	<0.00199	0.0996	0.0972	98	0.100	0.0911	91	6	70-130	35	
m,p-Xylenes	<0.00398	0.199	0.180	90	0.200	0.168	84	7	70-130	35	
o-Xylene	<0.00199	0.0996	0.0841	84	0.100	0.0784	78	7	70-130	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order # : 597263

Project ID:

Lab Batch ID: 3061678

QC- Sample ID: 597130-005 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/29/2018

Date Prepared: 08/29/2018

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	1.11	248	244	98	248	245	98	0	90-110	20	

Lab Batch ID: 3061678

QC- Sample ID: 597130-015 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/29/2018

Date Prepared: 08/29/2018

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	55.1	250	307	101	250	307	101	0	90-110	20	

Lab Batch ID: 3061546

QC- Sample ID: 597133-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/28/2018

Date Prepared: 08/28/2018

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	880	88	999	885	89	1	70-135	20	
Diesel Range Organics (DRO)	<15.0	997	902	90	999	906	91	0	70-135	20	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



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CHAIN OF CUSTODY

Page 1 Of 1

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

Phoenix, Arizona (480-355-0900)

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[illegible]



Client: TRC Solutions, Inc

Date/ Time Received: 08/28/2018 01:41:00 PM

Work Order #: 597263

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.2
#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)?	N/A
#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:

Brianna Teel

Date: 08/28/2018

Checklist reviewed by:

Kelsey Brooks

Date: 08/29/2018

Analytical Report 599714

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Owl 20504 JV-P #005 SWD

27-SEP-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-16)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



27-SEP-18

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

Reference: XENCO Report No(s): **599714**
Owl 20504 JV-P #005 SWD
Project Address: Eddy, 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) 599714. 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. 599714 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', written over a horizontal line.

Kelsey Brooks

Project Manager

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**Sample Cross Reference 599714****TRC Solutions, Inc, Midland, TX**

Owl 20504 JV-P #005 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
W. TP Floor @ 3'	S	09-18-18 14:00	3 ft	599714-001
S. TP Floor @ 3.5'	S	09-18-18 14:30	3.5 ft	599714-002



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Owl 20504 JV-P #005 SWD

Project ID:
Work Order Number(s): 599714

Report Date: 27-SEP-18
Date Received: 09/20/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 599714

TRC Solutions, Inc, Midland, TX

Project Name: Owl 20504 JV-P #005 SWD



Project Id:

Contact: Joel Lowry

Project Location: Eddy, NM

Date Received in Lab: Thu Sep-20-18 11:00 am

Report Date: 27-SEP-18

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	599714-001	599714-002				
	Field Id:	W. TP Floor @ 3'	S. TP Floor @ 3.5'				
	Depth:	3- ft	3.5- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Sep-18-18 14:00	Sep-18-18 14:30				
Chloride by EPA 300	Extracted:	Sep-24-18 10:00	Sep-24-18 10:00				
	Analyzed:	Sep-25-18 10:51	Sep-25-18 10:57				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		8.78 1.99	8.66 1.99				

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



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



BS / BSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 599714

Project ID:

Analyst: CHE

Date Prepared: 09/24/2018

Date Analyzed: 09/24/2018

Lab Batch ID: 3064310

Sample: 7662884-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<2.00	100	105	105	100	104	104	1	90-110	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: Owl 20504 JV-P #005 SWD

Work Order #: 599714

Project ID:

Lab Batch ID: 3064310

QC- Sample ID: 599704-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 09/24/2018

Date Prepared: 09/24/2018

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	16.1	99.2	118	103	99.2	118	103	0	90-110	20	

Lab Batch ID: 3064310

QC- Sample ID: 599709-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 09/24/2018

Date Prepared: 09/24/2018

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	452	99.6	531	79	99.6	533	81	0	90-110	20	X

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



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Phoenix, Arizona (480-355-0900)

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Page 1 Of 1

[illegible]



Client: TRC Solutions, Inc

Date/ Time Received: 09/20/2018 11:00:00 AM

Work Order #: 599714

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.9
#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:

Katie Lowe

Date: 09/20/2018

Checklist reviewed by:

Kelsey Brooks

Date: 09/20/2018

Analytical Report 619200

for
TRC Solutions, Inc

Project Manager: Jared Stoffel

OWL 250504

04-APR-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)

Xenco-San Antonio (EPA Lab Code: TNi02385): Texas (T104704534-18-4)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

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

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429), North Carolina (483)

Xenco-Lakeland: Florida (E84098)



04-APR-19

Project Manager: **Jared Stoffel**

TRC Solutions, Inc

2057 Commerce

Midland, TX 79703

Reference: XENCO Report No(s): **619200**

OWL 250504

Project Address: New Mexico

Jared Stoffel:

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) 619200. 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. 619200 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 'Mike Kimmel', written over a light gray rectangular background.

Mike Kimmel

Client Services Manager

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Sample Cross Reference 619200



TRC Solutions, Inc, Midland, TX

OWL 250504

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PC-FL-2 @ 24"	S	03-06-19 16:30		619200-001



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: OWL 250504

Project ID:

Work Order Number(s): 619200

Report Date: 04-APR-19

Date Received: 03/27/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 619200

TRC Solutions, Inc, Midland, TX

Project Name: OWL 250504



Project Id:

Contact: Jared Stoffel

Project Location: New Mexico

Date Received in Lab: Wed Mar-27-19 04:42 pm

Report Date: 04-APR-19

Project Manager: Mike Kimmel

Analysis Requested	Lab Id:	619200-001					
	Field Id:	PC-FL-2 @ 24"					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Mar-06-19 16:30					
Chloride by EPA 300	Extracted:	Mar-28-19 09:00					
	Analyzed:	Mar-28-19 12:04					
	Units/RL:	mg/kg RL					
Chloride		77.0 49.9					

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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.9%

Mike Kimmel
Client Services Manager



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



BS / BSD Recoveries



Project Name: OWL 250504

Work Order #: 619200

Project ID:

Analyst: SPC

Date Prepared: 03/28/2019

Date Analyzed: 03/28/2019

Lab Batch ID: 3083815

Sample: 7674514-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	243	97	250	244	98	0	90-110	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100 * (C)/[B]$ Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Version: 1.0%



Form 3 - MS / MSD Recoveries



Project Name: OWL 250504

Work Order # : 619200

Project ID:

Lab Batch ID: 3083815

QC- Sample ID: 618905-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 03/28/2019

Date Prepared: 03/28/2019

Analyst: SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	22.5	249	261	96	249	263	97	1	90-110	20	

Lab Batch ID: 3083815

QC- Sample ID: 618965-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 03/28/2019

Date Prepared: 03/28/2019

Analyst: SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	16.8	252	261	97	252	259	96	1	90-110	20	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



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Dallas, Texas (214-902-0300)
Service Center - San Antonio, Texas (210-509-3334)

www.xenco.com

Odessa, Texas (432-563-1800)	Lakeand, Florida (863-646-8526)
Norcross, Georgia (770-449-8800)	Tampa, Florida (813-620-2000)
Xenico Quote #	Xenico Job #
	016207

CHAIN OF CUSTODY

Page 1 Of 1

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes											
Company Name / Branch: TRC Midland		Project Name/Number: 061 250504															
Company Address: 10 Delta Dr Ste 150F		Project Location: New Mexico															
Email: jstoffer@trcsolutions.com		Invoice To: CDC															
Project Contact: Jared Stoffer		PO Number:															
Sampler's Name: Scott Stanley																	
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MeOH	NONE	Chloride (E300)	Field Comments	
1	PL-FL-2 @ 24"		3/6/19	1630	S.I.I	1									X		
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
Turnaround Time (Business days)																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											
☐ 2 Day EMERGENCY		☐ Contract TAT		☐ Level 3 (CLP Forms)		☐ UST / RG -411											
☒ 3 Day EMERGENCY				☐ TRRP Checklist													
TAT Starts Day received by Lab, if received by 3:00 pm																	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Relinquished By: [Signature]		Date Time: 3/27/19		Received By: [Signature]		Date Time: 3/27/19		Received By: [Signature]	
Relinquished By: [Signature]		Date Time:															



Client: TRC Solutions, Inc

Date/ Time Received: 03/27/2019 04:42:00 PM

Work Order #: 619200

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3
#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)?	N/A
#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:

Brianna Teel

Date: 03/27/2019

Checklist reviewed by:

Allison Johnson

Date: 03/28/2019



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:	564855-001	564855-002	564855-003	564855-004	564855-005	564855-006
	Field Id:	TT-1 @ Surf.	TT-1 @ 1'	TT-1 @ 2'	TT-1 @ 3'	TT-1 @ 4'	TT-1 @ 6'
	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				
	Analyzed:	Oct-08-17 21:09	Oct-08-17 23:51				
	Units/RL:	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	Extracted:	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
	Analyzed:	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
	Units/RL:	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	Extracted:	Oct-06-17 14:15	Oct-06-17 14:15				
	Analyzed:	Oct-07-17 22:20	Oct-08-17 00:08				
	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 14:00	Oct-06-17 14:00				
	Analyzed:	Oct-08-17 21:09	Oct-08-17 23:51				
	Units/RL:	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.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

**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'

Matrix: Soil

Date Received: 10.05.17 17.01

Lab Sample Id: 564855-002

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: 3030193

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

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 00.08	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

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	<0.0172	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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 5332 Blackberry Drive, San Antonio TX 78238
 1211 W Florida Ave, Midland, TX 79701
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(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: 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



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

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: 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						Invoice To: COG Operating CIO Becky Haskell											
Project Contact: Joel Lowry						Invoice:																	
Sampler's Name Joel Lowry																							

No.	Field ID / Point of Collection	Collection	Sample Depth	Date	Time	# of bottles	Number of preserved bottles						Data Deliverable Information						Turnaround Time (Business days)	Notes:	
							HCl	NaOH/Zn	Acetate	HNO ₃	H ₂ SO ₄	NaOH	NH ₄ SO ₄	MeOH	NONE						
1	TT-1 @ Surf.		Surf	10/3/2017		S 1										X	TPH 8015 M Ext	X	BTEX 8021B		
2	TT-1 @ 1'		1	10/3/2017		S 1										X		X			
3	TT-1 @ 2'		2	10/3/2017		S 1										X		X			
4	TT-1 @ 3'		3	10/3/2017		S 1										X					
5	TT-1 @ 4'		4	10/3/2017		S 1										X					
6	TT-1 @ 6'		6	10/3/2017		S 1										X					
7	TT-1 @ 8'-G		8	10/3/2017		S 1										X					

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

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:	Received By:	Date Time:	FED-EX / UPS: Tracking #
<i>[Signature]</i>	<i>[Signature]</i>	10/5 5:01	
Relinquished By:	Relinquished By:	Date Time:	
Relinquished by:	Relinquished By:	Date Time:	

On Ice		Cooler Temp.	Thermo Corr. Factor
<i>[Initials]</i>	<i>[Initials]</i>	43	43/42

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.

3	5	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.	Preserved where applicable ☐	On Ice ☐	Cooler Temp. 11.5	Thermo. Corr. Factor 4.3 / 4.2



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

Date: 10/06/2017

Checklist reviewed by:

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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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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

CHAIN OF CUSTODY

Page 1 Of 1



Setting the Standard since 1990

Stafford, Texas (281-240-4200)

Dallas Texas (214-902-0300)

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

www.xenco.com

Phoenix, Arizona (480-355-0900)

Xenco Quote # 564857

Xenco Job # 564857

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				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	Matrix	# of bottles	HCl	NaOH/Zn	Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	TT-2 @ Surf.	Surf	10/3/2017		S	1											TPH 8015 M Ext
2	TT-2 @ 1'	1	10/3/2017		S	1											Chloride E 300
3	TT-2 @ 2'	2	10/3/2017		S	1											
4	TT-2 @ 3'	3	10/3/2017		S	1											
5																	
6																	
7																	
Turnaround Time (Business days)																	
☐ Same Day TAT ☐ 5 Day TAT ☐ Level II Std QC ☐ Level IV (Full Data Pkg /raw data) ☐ Next Day EMERGENCY ☐ 7 Day TAT ☐ Level III Std QC+ Forms ☐ TRRP Level IV ☐ 2 Day EMERGENCY ☒ Contract TAT ☐ Level 3 (CLP Forms) ☐ UST / RG -411 ☐ 3 Day EMERGENCY ☐ TRRP-Checklist																	
TAT Starts Day received by Lab, if received by 5:00 pm																	
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																	
Relinquished by Sampler: <i>Joel Lowry</i> Date Time: 10/5 5:00 PM Relinquished By: <i>Becky Haskell</i> Date Time: 10/5 5:00 PM Relinquished by: <i>Becky Haskell</i> Date Time: 10/5 5:00 PM Relinquished By: <i>Becky Haskell</i> Date Time: 10/5 5:00 PM Relinquished by: <i>Becky Haskell</i> Date Time: 10/5 5:00 PM Relinquished By: <i>Becky Haskell</i> Date Time: 10/5 5:00 PM																	
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 special duties 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 #: 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

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

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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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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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



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-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: 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			



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



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

Date: 10/06/2017

Checklist reviewed by:

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.
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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

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	3820	250	mg/kg	10.16.17 10.15		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 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

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	<0.0170	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**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564866-007

Date Collected: 10.03.17 00.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: RNL

% Moisture:

Analyst: RNL

Date Prep: 10.16.17 08.00

Basis: Wet Weight

Seq Number: 3030531

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

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 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

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 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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(602) 437-0330	



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

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

564866
~~564865~~

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 CIO Becky Haskell													
Sampler's Name Joel Lowry				Invoice:													
No.	Field ID / Point of Collection	Sample Depth	Collection	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn	Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	TT-4 @ Surf.	Surf		10/3/2017		S	1										TPH 8015 M Ext
2	TT-4 @ 1'	1		10/3/2017		S	1										Chloride E 300
3	TT-4 @ 2'	2		10/3/2017		S	1										BTEX 8021B
4	TT-4 @ 3'	3		10/3/2017		S	1										
5	TT-4 @ 4'	4		10/3/2017		S	1										
6	TT-4 @ 6'	6		10/3/2017		S	1										
7	TT-4 @ 8'-G	8		10/3/2017		S	1										
Turnaround Time (Business days)																	
Notes:																	
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: <i>Joel Lowry</i> Date Time: 10/3/2017 5:00																	
Relinquished by: <i>Joel Lowry</i> Date Time: 10/3/2017 5:00																	
Relinquished by: <i>Joel Lowry</i> Date Time: 10/3/2017 5:00																	
Relinquished by: <i>Joel Lowry</i> Date Time: 10/3/2017 5:00																	

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco. Its affiliates and subcontractors 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 #: 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

Analysis Requested	Lab Id:	564890-001	564890-002	564890-003	564890-004	564890-005	
	Field Id:	TT-5 @ Surf.	TT-5 @ 1'	TT-5 @ 2'	TT-5 @ 3'	TT-5 @ 7'-G	
	Depth:						
	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-06-17 14:00	Oct-06-17 14:00			Oct-06-17 14:00	
	Analyzed:	Oct-10-17 03:26	Oct-09-17 02:32			Oct-09-17 03:00	
	Units/RL:	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	Extracted:	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	
	Analyzed:	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	
	Units/RL:	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	Extracted:	Oct-06-17 14:15	Oct-06-17 14:15			Oct-06-17 14:15	
	Analyzed:	Oct-08-17 06:37	Oct-08-17 07:13			Oct-08-17 07:49	
	Units/RL:	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.	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00			Oct-06-17 14:00	
	Analyzed:	Oct-10-17 03:26	Oct-09-17 02:32			Oct-09-17 03:00	
	Units/RL:	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.

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

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

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

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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'

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564890-002

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	346	125	mg/kg	10.16.17 16.34		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 07.13	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

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 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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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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

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

Field ID / Point of Collection		Collection		Data Deliverable Information		Notes:	
No.	Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles	
1	TT-5 @ Surf.	10/3/2017		S	1		
2	TT-5 @ 1'	10/3/2017		S	1		
3	TT-5 @ 2'	10/3/2017		S	1		
4	TT-5 @ 3'	10/3/2017		S	1		
5	TT-4 @ 7'-G	10/3/2017		S	1		

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		FED-EX / UPS: Tracking #	
Relinquished by Sampler:			
1 <i>Joel Lowry</i>	Date Time: 10/5/2017	Relinquished By:	Date Time:
2 <i>Becky Haskell</i>	Date Time:	2	2
3	Date Time:	Relinquished By:	Date Time:
4	Date Time:	4	4
5	Date Time:	Relinquished By:	Date Time:
6	Date Time:	6	6

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY	
Relinquished by:	Preserved where applicable
1 <i>Joel Lowry</i>	On Ice
2 <i>Becky Haskell</i>	Thermo. Corr. Factor
3	10/3/2017
4	
5	

Matrix Codes	
W = Water	
S = Soil/Sed/Solid	
GW = Ground Water	
DW = Drinking Water	
P = Product	
SL = Sludge	
OW = Ocean/Sea Water	
WI = Wipe	
WW = Waste Water	
A = Air	

Field Comments	
1	
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TPH 8015 M Ext	
1	X
2	X
3	X
4	X
5	X

Chloride E 300	
1	X
2	X
3	X
4	X
5	X

BTEX 8021B	
1	X
2	X
3	X
4	X
5	X

Number of preserved bottles	
1	
2	
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NONE	
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MEOH	
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NaHSO4	
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H2SO4	
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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

Date: 10/06/2017

Checklist reviewed by:

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

Analysis Requested	Lab Id:	564895-001	564895-002	564895-003	564895-004	564895-005	
	Field Id:	TT-6 @ Surf.	TT-6 @ 1'	TT-6 @ 2'	TT-6 @ 3'	TT-6 @ 4'-G	
	Depth:						
	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-06-17 14:00	Oct-06-17 14:00			Oct-06-17 14:00	
	Analyzed:	Oct-09-17 03:27	Oct-09-17 05:16			Oct-09-17 05:43	
	Units/RL:	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	Extracted:	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	
	Analyzed:	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	
	Units/RL:	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	Extracted:	Oct-06-17 14:15	Oct-17-17 15:48	Oct-17-17 15:48		Oct-06-17 14:15	
	Analyzed:	Oct-08-17 08:25	Oct-18-17 08:41	Oct-18-17 10:27		Oct-08-17 09:01	
	Units/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	
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.	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00	Oct-17-17 12:30		Oct-06-17 14:00	
	Analyzed:	Oct-09-17 03:27	Oct-09-17 05:16	Oct-17-17 19:12		Oct-09-17 05:43	
	Units/RL:	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

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

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

**Sample Cross Reference 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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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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: 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



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

CHAIN OF CUSTODY

Page 1 Of 1

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

Phoenix, Arizona (480-355-0900)

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Client / Reporting Information Company Name / Branch: TRC Environmental Corporation Company Address: 2057 Commerce Drive Midland, TX 79703 Email: jlowry@trcsolutions.com Phone No: 432-466-4450 Project Contact: Joel Lowry Samplers Name: Joel Lowry		Project Information Project Name/Number: Owl 20504 JV-P #005 SWD Project Location: Eddy Co, NM Invoice To: COG Operating C/O Becky Haskell Invoice:		Analytical Information Xenco Quote # Xenco Job #		Matrix Codes W = Water S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wipe O = Oil WW = Waste Water A = Air	
Field ID / Point of Collection No. 1 TT-6 @ Surf. 2 TT-6 @ 1' 3 TT-6 @ 2' 4 TT-6 @ 3' 5 TT-6 @ 4'-G 6 7		Collection Date 10/3/2017 Time Matrix S # of bottles 1 Sample Depth Surf 1 2 3 4		Number of preserved bottles NONE MECH NaHSO4 NaOH H2SO4 HNO3 NaOH/Zn Acetate HCl		Field Comments 1 2 3 4 5	
Turnaround Time (Business days) ☐ Same Day TAT ☐ 5 Day TAT ☐ Next Day EMERGENCY ☐ 7 Day TAT ☐ 2 Day EMERGENCY ☒ Contract TAT ☐ 3 Day EMERGENCY TAT Starts Day received by Lab, if received by 5:00 pm		Data Deliverable Information ☐ Level II Std QC ☐ Level IV (Full Data Pkg /raw data) ☐ Level III Std QC+ Forms ☐ TRRP Level IV ☐ Level 3 (CLP Forms) ☐ UST / RG -411 ☐ TRRP Checklist		Notes: jlowry@trcsolutions.com thaskell@concho.com sdstanley@trcsolutions.com		FED-EX / UPS: Tracking #	
Relinquished by Sampler: Date Time: 10/5 sun Relinquished by: [Signature]		Relinquished By: Date Time: 10/5 sun Relinquished By: [Signature]		Relinquished By: Date Time: 10/5 sun Relinquished By: [Signature]		Relinquished By: Date Time: 10/5 sun Relinquished By: [Signature]	
Relinquished by: Date Time: 10/5 sun Relinquished by: [Signature]		Relinquished By: Date Time: 10/5 sun Relinquished By: [Signature]		Relinquished By: Date Time: 10/5 sun Relinquished By: [Signature]		Relinquished By: Date Time: 10/5 sun Relinquished By: [Signature]	

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.



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

Date: 10/06/2017

Checklist reviewed by:

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

Analysis Requested	Lab Id:	564897-001	564897-002	564897-003	564897-004	564897-005	
	Field Id:	TT-7 @ Surf.	TT-7 @ 1'	TT-7 @ 2'	TT-7 @ 3'	TT-7 @ 4'-G	
	Depth:						
	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-06-17 14:00	Oct-06-17 14:00			Oct-06-17 14:00	
	Analyzed:	Oct-09-17 06:10	Oct-09-17 06:37			Oct-09-17 17:33	
	Units/RL:	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	Extracted:	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	
	Analyzed:	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	
	Units/RL:	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	Extracted:	Oct-06-17 14:15	Oct-06-17 14:15			Oct-06-17 14:15	
	Analyzed:	Oct-08-17 09:36	Oct-08-17 10:13			Oct-08-17 10:49	
	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 06:10	Oct-09-17 06:37			Oct-09-17 17:33	
	Units/RL:	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: 1.9%

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

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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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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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: 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

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



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	



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			

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

Xenco Quote #

Xenco Job #

564897

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				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	Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments	
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																		

Data Deliverable Information				Notes:			
Turnaround Time (Business days)							
☐ Same Day TAT	☐ 5 Day TAT	☐ Level II Std QC	☐ Level IV (Full Data Pkg /raw data)				
☐ Next Day EMERGENCY	☐ 7 Day TAT	☐ Level III Std QC+ Forms	☐ TRRP Level IV				
☐ 2 Day EMERGENCY	☒ Contract TAT	☐ Level 3 (CLP Forms)	☐ UST / RG -411				
☐ 3 Day EMERGENCY		☐ TRRP Checklist					
TAT Starts Day received by Lab, if received by 5:00 pm							
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY							
Relinquished by Sampler:		Relinquished By:		Date Time:		Received By:	
1		10/15/2017		10/15/2017		2	
3						4	
5						4	
Relinquished by:		Relinquished By:		Date Time:		Received By:	
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1		10/15/2017		10/15/2017		2	
3							



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

Date: 10/06/2017

Checklist reviewed by:

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

Analysis Requested	Lab Id:	564899-001	564899-002	564899-003	564899-004	564899-005	564899-006
	Field Id:	TT-8 @ Surf.	TT-8 @ 1'	TT-8 @ 2'	TT-8 @ 3'	TT-8 @ 4'	TT-8 @ 6'-G
	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
	Analyzed:	Oct-09-17 07:04	Oct-09-17 07:31				Oct-09-17 07:58
	Units/RL:	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	Extracted:	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
	Analyzed:	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
	Units/RL:	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	Extracted:	Oct-06-17 14:30	Oct-06-17 14:30				Oct-06-17 14:30
	Analyzed:	Oct-08-17 13:46	Oct-08-17 15:36				Oct-08-17 16:13
	Units/RL:	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.	Extracted:	Oct-06-17 14:00	Oct-06-17 14:00				Oct-06-17 14:00
	Analyzed:	Oct-09-17 07:04	Oct-09-17 07:31				Oct-09-17 07:58
	Units/RL:	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'**

Matrix: Soil

Date Received: 10.05.17 17.00

Lab Sample Id: 564899-002

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: 3030660

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

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 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

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	<0.0194	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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(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

CHAIN OF CUSTODY

Page 1 Of 1

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

Phoenix, Arizona (480-355-0900)

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11 of 20

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						Invoice To: COG Operating CIO Becky Haskell											
Project Contact: Joel Lowry						Invoice:																	
Samplers Name Joel Lowry																							

No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	Nach/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015 M Exl	Chloride F 300	BTEX 8021B	Field Comments
1	TT-8 @ Surf.	Surf	10/3/2017		S	1									X	X		1
2	TT-8 @ 1'	1	10/3/2017		S	1									X	X		2
3	TT-8 @ 2'	2	10/3/2017		S	1									X	X		3
4	TT-8 @ 3'	3	10/3/2017		S	1									X	X		4
5	TT-8 @ 4'	4	10/3/2017		S	1									X	X		5
6	TT-8 @ 6'-G	6	10/3/2017		S	1									X	X		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	rhaskeil@concho.com							
☐ 2 Day EMERGENCY	☒ Contract TAT	☐ Level 3 (CLP Forms)	☐ UST / RG -411	sedstanley@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:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1. <i>[Signature]</i>	10/5/2017	<i>[Signature]</i>		2.		2.	
Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
3.		3.		4.		4.	
Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
5.		5.		Custody Seal #	Preserved where applicable	On Ice	Cooled Temp.
							2.3

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

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.	5	Signature	Printed Name	Company Name	Address	City	State	Zip	Phone	Fax	E-mail	Comments



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

<i>Analysis Requested</i>	<i>Lab Id:</i>	564900-001	564900-002	564900-003			
	<i>Field Id:</i>	TT-9 Surf.	TT-9 1'	TT-9 2'-G			
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	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 08:25	Oct-09-17 08:52	Oct-09-17 09:18			
	<i>Units/RL:</i>	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	<i>Extracted:</i>	Oct-17-17 08:30	Oct-17-17 08:30	Oct-17-17 08:30			
	<i>Analyzed:</i>	Oct-17-17 16:48	Oct-17-17 17:37	Oct-17-17 18:02			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		<125 125	257 125	202 125			
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 16:49	Oct-08-17 17:26	Oct-08-17 18:04			
	<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 08:25	Oct-09-17 08:52	Oct-09-17 09:18			
	<i>Units/RL:</i>	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):
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): **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

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

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A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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



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

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	257	125	mg/kg	10.17.17 17.37		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 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

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	<0.0181	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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(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: 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



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



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	

CHAIN OF CUSTODY

Page 1 Of 1

San Antonio, Texas (210-509-3334)
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564900

[illegible]

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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

Date: 10/06/2017

Checklist reviewed by:

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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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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	



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



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



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

CHAIN OF CUSTODY

Page 1 Of 1

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

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564902

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						Invoice To: COG Operating CIO Becky Haskell											
Project Contact: Joel Lowry						Invoice:																	
Sampler's Name Joel Lowry																							
No.	Field ID / Point of Collection					Collection		Number of preserved bottles															
	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MeOH	NONE										
1	TT-10 @ Surf.	10/3/2017		S	1									TPH 8015 M Ext	Chloride E 300	BTEX 8021B							
2	TT-10 @ 1'	10/3/2017		S	1									X	X								
3	TT-10 @ 2'	10/3/2017		S	1									X									
4	TT-10 @ 3'-G	10/3/2017		S	1									X									
5																							
6																							
7																							
Turnaround Time (Business days)						Data Deliverable Information						Notes:											
☐ Same Day TAT						☐ Level II Std QC						☐ Level IV (Full Data Pkg (raw data))						☐ jlowry@trcsolutions.com					
☐ Next Day EMERGENCY						☐ Level III Std QC+ Forms						☐ TRRP Level IV						☐ rhaskell@concho.com					
☐ 2 Day EMERGENCY						☐ 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 LEAST TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																							
Relinquished by Sampler:						Received By:						Date Time:						Received By:					
1 <i>Joel Lowry</i>						1 <i>[Signature]</i>						2 <i>[Signature]</i>						2					
Relinquished by:						Received By:						Date Time:						Received By:					
3						3						4						4					
Relinquished by:						Received By:						Date Time:						Received By:					
5						5						4						4					
						Custody Seal #						Preserved where applicable						On Ice Cooler Temp Therm. Cor. Factor					

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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

Analysis Requested	Lab Id:	564906-001	564906-002	564906-003	564906-004		
	Field Id:	TT-11 @ Surf.	TT-11 @ 1'	TT-11 @ 2'	TT-11 @ 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 20:17	Oct-09-17 20:44		Oct-09-17 21:11		
	Units/RL:	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	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 18:27	Oct-17-17 19:04	Oct-17-17 19:54	Oct-17-17 20:19		
	Units/RL:	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	Extracted:	Oct-06-17 14:30	Oct-06-17 14:30		Oct-06-17 14:30		
	Analyzed:	Oct-08-17 20:32	Oct-08-17 21:09		Oct-08-17 21:46		
	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 20:17	Oct-09-17 20:44		Oct-09-17 21:11		
	Units/RL:	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

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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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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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



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



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

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

564906

Client / Reporting Information	Project Information
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: llowry@trcsolutions.com	Invoice To: COG Operating CO Becky Haskell
Phone No: 432-466-4450	Invoice:
Project Contact: Joel Lowry	
Samplers's Name: Joel Lowry	

[illegible]

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

TAT Starts Day received by Lab, if received by 5:00 pm		SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY	
Relinquished by Sampler:		Date Time:	
Relinquished by:		Date Time:	
Relinquished by:		Date Time:	
Relinquished by:		Date Time:	
Relinquished by:		Date Time:	

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. Assigning standard terms or fees 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 amounts enforced unless previously negotiated under a fully executed client contract.



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

564906



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

Date: 10/06/2017

Checklist reviewed by:

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.
 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 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

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

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

**Sample Cross Reference 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	**	



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(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: 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

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

www.xenco.com

564911

Phoenix, Arizona (480-355-0900)

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 CO 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	Acetate	HNO3	H2SO4	NaOH	NaHSO4		MEOH	NONE		
1	TT-12 @ Surf.	Surf	10/3/2017		S	1												
2	TT-12 @ 1'	1	10/3/2017		S	1												
3	TT-12 @ 2'	2	10/3/2017		S	1												
4	TT-12 @ 3'-G	3	10/3/2017		S	1												
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))	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:	Received By:	Relinquished By:	Received By:
1 <i>Joel Lowry</i>	1 <i>Becky Haskell</i>	2 <i>Becky Haskell</i>	2 <i>Becky Haskell</i>
Relinquished by:	Received By:	Relinquished By:	Received By:
3 <i>Becky Haskell</i>	3 <i>Becky Haskell</i>	4 <i>Becky Haskell</i>	4 <i>Becky Haskell</i>
Relinquished by:	Received By:	Relinquished By:	Received By:
5 <i>Becky Haskell</i>	5 <i>Becky Haskell</i>	6 <i>Becky Haskell</i>	6 <i>Becky Haskell</i>

FED-EX / UPS: Tracking #		On Ice		Cooler Temp		Thermo/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.



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

Date: 10/06/2017

Checklist reviewed by:

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):
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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): **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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(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: 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



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



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



Setting the Standard since 1990
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564912

CHAIN OF CUSTODY

Page 1 Of 1

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 Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

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Xenco Quote #

564912

Xenco Job #

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes				
Company Name / Branch: TRC Environmental Corporation				Project Name/Number: Owl 20504 JV-P #005 SWID												
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	Acetate	HNO3	H2SO4	NaOH	NH4SO4	MEOH	NONE
1	TT-13 @ Surf.	Surf		10/3/2017		S	1									
2	TT-13 @ 1'-G	1		10/3/2017		S	1									
3	TT-13 @ 1.5'-G	1.5		10/3/2017		S	1									
4																
5																
6																
7																
Turnaround Time (Business days) ☐ Same Day TAT ☐ 5 Day TAT ☐ Level II Std QC ☐ Level IV (Full Data Pkg /raw data) ☐ Next Day EMERGENCY ☐ 7 Day TAT ☐ Level III Std QC+ Forms ☐ TRRP Level IV ☐ 2 Day EMERGENCY ☒ Contract TAT ☐ Level 3 (CLP Forms) ☐ UST / RG-411 ☐ 3 Day EMERGENCY ☐ TRRP Checklist																
TAT Starts Day received by Lab, if received by 5:00 pm Relinquished by Sampler: <u>Joel Lowry</u> Relinquished by: <u>Joel Lowry</u> Relinquished by: <u>Joel Lowry</u>																
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY Date Time: <u>10/15 5:00</u> Relinquished By: <u>Joel Lowry</u> Date Time: <u>10/15 5:00</u> Relinquished By: <u>Joel Lowry</u> Date Time: <u>10/15 5:00</u> Relinquished By: <u>Joel Lowry</u>																
Notes: jlowry@trcsolutions.com rtaskell@concho.com sdstanley@trcsolutions.com																
Matrix Codes: W = Water S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wipe O = Oil WW = Waste Water A = Air																
Field Comments: 1 2 3																

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such 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 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

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

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

**Sample Cross Reference 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 @ 612"	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'

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: 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 17.37	U	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	<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

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	<0.0197	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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

PQL Practical Quantitation Limit **SQL** 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: 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			



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564935

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564935

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	Collection	Date	Time	Matrix	# of bottles	Number of preserved bottles	Chloride E 300	TPH 8015 M Ext	BTEX 8021B	Field Comments
1	OS #1 @ 0-6"	1		10/3/2017	S		1	MEOH	X	X		
2	OS #1 @ 6-12"	1		10/3/2017	S		1	NaOH	X	X		
3	OS #1 @ 3'	1		10/3/2017	S		1	H2SO4	X	X		
4	OS #2 @ 0-6"	1		10/3/2017	S		1	Acetate	X	X		
5	OS #2 @ 6-12"	1		10/3/2017	S		1	HCl	X	X		
								NaOH/Zn				
								Acetate				
								HNO3				
								NaOH				
								H2SO4				
								MEOH				
								NONE				

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 (GLP 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 #	
Relinquished by Sampler:	Received By:		
Relinquished by:	Relinquished By:		
Relinquished by:	Relinquished By:		
Relinquished by:	Relinquished By:		

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

On Ice		Cooler Temp		Thermo Corr Factor	
Received By:	Received By:	Received By:	Received By:	Received By:	Received By:
Received By:	Received By:	Received By:	Received By:	Received By:	Received By:
Received By:	Received By:	Received By:	Received By:	Received By:	Received By:
Received By:	Received By:	Received By:	Received By:	Received By:	Received By:

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

<i>Analysis Requested</i>	<i>Lab Id:</i>	564921-001	564921-002	564921-003	564921-004	564921-005	564921-006
	<i>Field Id:</i>	North #1	North #2	North #3	South #1	South #2	South #3
	<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	Oct-06-17 14:00	Oct-06-17 16:00	Oct-06-17 16:00
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<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	<125 125	<125 125	<125 125	<125 125	<125 125
DRO-ORO By SW8015B	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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.	<i>Extracted:</i>	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
	<i>Analyzed:</i>	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
	<i>Units/RL:</i>	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.
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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

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

**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

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	<125	125	mg/kg	10.18.17 09.48	U	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	<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

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	<0.0192	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

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	<125	125	mg/kg	10.18.17 10.37	U	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	<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

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	<0.0197	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

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	<125	125	mg/kg	10.18.17 11.02	U	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	<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

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	<0.0199	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

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	<125	125	mg/kg	10.18.17 11.27	U	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	<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

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	<0.0185	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

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	<125	125	mg/kg	10.18.17 11.52	U	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	<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

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 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

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	<125	125	mg/kg	10.18.17 12.29	U	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	<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

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	<0.0197	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

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	1370	125	mg/kg	10.18.17 13.31	D	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	<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

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	<0.0197	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

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	9470	2500	mg/kg	10.18.17 13.56	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 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

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	<0.0189	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		



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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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: 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
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

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

Xenco Job #

26/10/20

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 CO Becky Haskell												
Samplers Name Joel Lowry				Invoice:												
No.	Field ID / Point of Collection	Collection	Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles						Field Comments		
								HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4		MEOH	NONE
1	North #1	001	1	10/3/2017		S	264									
2	North #2	002	1	10/3/2017		S	460									
3	North #3	003	1	10/3/2017		S	164									
4	South #1	004	1	10/3/2017		S	164									
5	South #2	005	1	10/3/2017		S	460									
6	South #3	006	1	10/3/2017		S	164									
7	East #1	007	1	10/3/2017		S	164									
	West #1	008	1	10/3/2017		S	264									
Turnaround Time (Business days) Notes:																
☐ Same Day TAT ☐ 5 Day TAT ☐ Next Day EMERGENCY ☐ 7 Day TAT ☐ 2 Day EMERGENCY ☒ Contract TAT ☐ 3 Day EMERGENCY ☐ Level II Std QC ☐ Level IV (Full Data Pkg /raw data) ☐ Level III Std QC+ Forms ☐ TRRP Level IV ☐ Level 3 (CLP Forms) ☐ UST / RG -411 ☐ TRRP Checklist jlowry@trcsolutions.com rhaskell@concho.com sdstanley@trcsolutions.com																
TAT Starts Day received by Lab, if received by 5:00 pm Relinquished by Sampler: 1 <i>Joel Lowry</i> Relinquished by: 3 Relinquished by: 5 SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY Date Time: Date Time: Date Time: Received By: Received By: Received By: Relinquished By: Relinquished By: Relinquished By:																
Relinquished by: 1 <i>Joel Lowry</i> Relinquished by: 3 Relinquished by: 5 Relinquished where applicable Date Time: Date Time: Date Time: Received By: Received By: Received By: Relinquished By: Relinquished By: Relinquished By:																
Relinquished by: 1 <i>Joel Lowry</i> Relinquished by: 3 Relinquished by: 5 Relinquished where applicable Date Time: Date Time: Date Time: Received By: Received By: Received By: Relinquished By: Relinquished By: Relinquished By:																

[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

COG- OWL 250504 JVP #005 SWD

Date: 3/4/2019

Photographic Documentation

Photograph No. 1

Date:

7/30/2018

Direction:

South

Description:

**View of
excavated area.**



Photograph No. 2

Date:

7/31/2018

Direction:

Southeast

Description:

**View of
excavated area.**



COG- OWL 250504 JVP #005 SWD

Date: 3/4/2019

Photographic Documentation

Photograph No. 3

Date:

9/18/2018

Direction:

Southeast

Description:

**View of
excavated area.**



Photograph No. 4

Date:

9/18/2018

Direction:

Southwest

Description:

**Overview of
excavated area.**



COG- OWL 250504 JVP #005 SWD

Date: 3/4/2019

Photographic Documentation

Photograph No. 5

Date:

10/18/2018

Direction:

Southeast

Description:

**View of liner
installation.**



Photograph No. 6

Date:

10/18/2018

Direction:

Southeast

Description:

**View of liner
installation.**



COG- OWL 250504 JVP #005 SWD

Date: 3/4/2019

Photographic Documentation

Photograph No. 7

Date:

11/20/2018

Direction:

Southwest

Description:

**View of
backfilled area.**



Photograph No. 8

Date:

11/20/2018

Direction:

South

Description:

**View of
backfilled area.**



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

AUG 23 2017

Form C-141
Revised August 8, 2011

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

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

Release Notification and Corrective Action

NAME 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

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	18	26S	27E	2,310	South	2,310	East	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: <u>Rebecca Haskell</u>	OIL CONSERVATION DIVISION	
Printed Name: Rebecca Haskell	Approved by Environmental Specialist: <u>[Signature]</u>	
Title: Senior HSE Coordinator	Approval Date: <u>8/28/17</u>	Expiration Date: <u>N/A</u>
E-mail Address: <u>rhaskell@concho.com</u>	Conditions of Approval: <u>see attached</u>	Attached: <u>4357</u>
Date: August 23, 2017 Phone: 432-683-7443		

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 161607

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 161607
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	11/29/2022