

REMEDIATION SUMMARY AND RISK-BASED SITE CLOSURE REQUEST

COG PATRON 23 FEDERAL #004H
UNIT LETTER "A", SECTION 23, TOWNSHIP 25 SOUTH, RANGE 29 EAST
EDDY COUNTY, NEW MEXICO
SRS No: 2018-050
NMOCD Reference No.: 2RP-4665

Prepared for:

Plains Pipeline, L.P.
505 North Big Spring, Suite 600
Midland, Texas 79701

Prepared by:

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

October 2018



Joel Lowry
Senior Project Manager



Curt Stanley
Senior Project Manager

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1.0 INTRODUCTION AND BACKGROUND

On behalf of Plains Pipeline, L.P. (Plains), TRC Environmental Corporation (TRC) has prepared this Remediation Summary and Risk-Based Site Closure Request for the Release Site known as the COG Patron 23 Federal #004H. The Release Site is located approximately ten (10) miles southeast of Malaga in Eddy County, New Mexico, in Unit Letter “A”, Section 23, Township 25 South, Range 29 East. The GPS coordinates for the site are N 32.1217981° and W 103.9478047°. The subject property is owned by the United State Department of the Interior and administered by the Bureau of Land Management (BLM). A “Site Location Map” and “Site & Sample Location Map” are provided as Figure 1 and Figure 2, respectively.

On March 9, 2018, a crude oil release occurred on the LACT unit at the COG Patron 23 Federal #004H Tank Battery. The release was attributed to operator error while routine maintenance was being conducted. The Initial Release Notification and Corrective Action (Form C-141) indicated approximately five (5) barrels (bbls) of crude oil were released within the earthen containment. During initial response activities, the Release Site was secured and a vacuum truck was utilized to recover approximately four (4) bbls of free standing crude oil. Upon discovering the release, the NMOCD and BLM were notified. A copy of NMOCD Form C-141 is provided in Appendix E. General Site Photographs are provided in Appendix A.

2.0 NMOCD SITE CLASSIFICATION

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 23, Township 25 South, Range 29 East. The ChevronTexaco inferred depth to groundwater trend map indicates groundwater should be encountered at approximately two hundred (200) to two hundred and twenty-five (225) feet below ground surface (bgs). Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

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

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

The NMOCD guidelines indicate the COG Patron 23 Federal #004H Release Site has a ranking score of zero (0). Soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene – 10 mg/kg (ppm)
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) – 50 mg/kg (ppm)
- Total Petroleum Hydrocarbons (TPH) – 5,000 mg/kg (ppm)

3.0 SUMMARY OF FIELD ACTIVITIES

On March 19, 2018, remediation activities commenced at the Release Site. Impacted soil was excavated and stockpiled on-site, atop an impermeable liner pending final disposition. The floor and sidewalls of the excavation were advanced until field observations suggested TPH and BTEX concentrations were below NMOCD Recommended Remediation Action Levels (RRAL).

On March 30, 2018, TRC collected five (5) excavation confirmation soil samples (FL, WSW, SSW, NSW and ESW) from the floor and sidewalls of the excavated area and submitted the soil samples to Xenco Laboratories of Midland, Texas for analysis of BTEX (Method SW 846-8021B) and TPH (Method SW846-8015M). Laboratory analytical results indicated benzene concentrations were below the applicable laboratory sample detection limit (SDL) in each of the submitted soil samples. Analytical results indicated BTEX concentrations ranged from less than the applicable laboratory SDL in soil sample WSW to 0.7936 mg/kg in soil sample FL. TPH concentrations ranged from 558.1 mg/kg in soil sample WSW to 23,520 mg/kg in soil sample FL. Soil sample FL was also analyzed for concentrations of chloride (Method 300/300.1), which were determined to be 165 mg/kg. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the NMOCD RRAL in each of the analyzed soil samples, with the exception of soil samples FL and SSW, which exhibited TPH concentrations of 23,520 mg/kg and 11,710 mg/kg, respectively. A table summarizing Concentrations of Benzene, BTEX, TPH, and Chloride in Soil is provided as Table 1. Laboratory analytical reports are provided in Appendix B.

Upon receiving laboratory analytical results, excavation activities resumed at the Release Site. Impacted soil affected above the NMOCD RRAL in the areas represented by soil samples FL and SSW was excavated and placed into the existing soil stockpile.

On April 30, 2018, TRC collected two (2) excavation confirmation soil samples (SP #1 @ 2' and SSWb) from the floor and sidewall of the excavated area and submitted the soil samples to the laboratory for analysis of TPH. Laboratory analytical results indicated soil samples SP #1 @ 2' and SSWb exhibited TPH concentrations of 6,351 mg/kg and 4,432.4 mg/kg, respectively.

Upon receiving laboratory analytical results, excavation activities resumed at the Release Site. Impacted soil affected above NMOCD RRAL in the area characterized by soil sample SP #1 @ 2' was excavated and placed into the existing soil stockpile.

On May 21, 2018, TRC collected two (2) excavation confirmation soil samples (FLb @ 2.5' and SSWc) from the floor and sidewall of the excavated area and submitted the soil samples to the laboratory for analysis of TPH. Laboratory analytical results indicated soil sample FLb @ 2.5' and SSWc exhibited THP concentrations of 6,332 mg/kg and 2,485.1 mg/kg, respectively.

Upon receiving laboratory analytical results, excavation activities resumed at the Release Site. Impacted soil affected above the NMOCD RRAL in the area characterized by soil sample FLb @ 2.5' was excavated and placed into the existing soil stockpile.

On June 20, 2018, TRC collected one (1) excavation confirmation soil sample (FL @ 4') from the floor of the excavated area and submitted the soil sample to the laboratory for analysis of TPH concentrations, which were determined to be 7,981 mg/kg. Further excavation advancement of the floor was impracticable due to the congested nature of the facility and the presence of a resilient rock layer.

On July 24, 2018, TRC revisited the Release Site with a backhoe equipped with a "hammerhoe" attachment. During the site visit, a portion of the floor was excavated to approximately seven (7) ft. bgs. During the excavation of the floor, three (3) delineation samples (FL @ 5', FL @ 6' and FL @ 7') were collected and submitted to the laboratory for analysis of TPH. Laboratory analytical results indicated TPH concentrations declined from 11,581.7 mg/kg in soil sample FL @ 5' to 6,595.8 mg/kg in soil sample FL @ 7'.

On August 23, 2018, TRC submitted a *Remediation Summary and Permission to Backfill Request*, on behalf of Plains, summarizing field activities conducted to date and detailing laboratory analytical results from confirmation soil samples. The *Remediation Summary and Permission to Backfill Request* was subsequently approved.

Upon receiving NMOCD and BLM permission, the excavated area was backfilled with locally sourced, non-impacted material. Excavation backfill was compacted and contoured to meet the needs of the facility. Prior to backfilling, the final dimensions of the excavated area were approximately sixty (60) ft. in length, thirty (30) ft in width, and six (6) inches (in.) to seven (7) ft. in depth.

On September 13, 2018, approximately thirty (30) cubic yards (cy) of impacted soil was transported to Lea Land, LLC (NMOCD Permit No. NM-01-035) for disposal. A copy of the Request for Approval to Accept Solid Waste (Form C-138) is provided in Appendix D.

4.0 SITE CLOSURE REQUEST

Based on laboratory analytical results from excavation confirmation soil samples, field activities conducted to date, declining TPH concentrations in delineation soil samples and depth to groundwater, TRC recommends Plains provide the NMOCD and the BLM a copy of this Remediation Summary and Risk-Based Site Closure Request and request the NMOCD and the BLM grant site closure status to the COG Patron 23 Federal #004H. Impacted soil in the floor of the excavated area adjacent to the LACT unit affected above the NMOCD RRAL for TPH will be further investigated and/or remediated at time of abandonment (TOA).

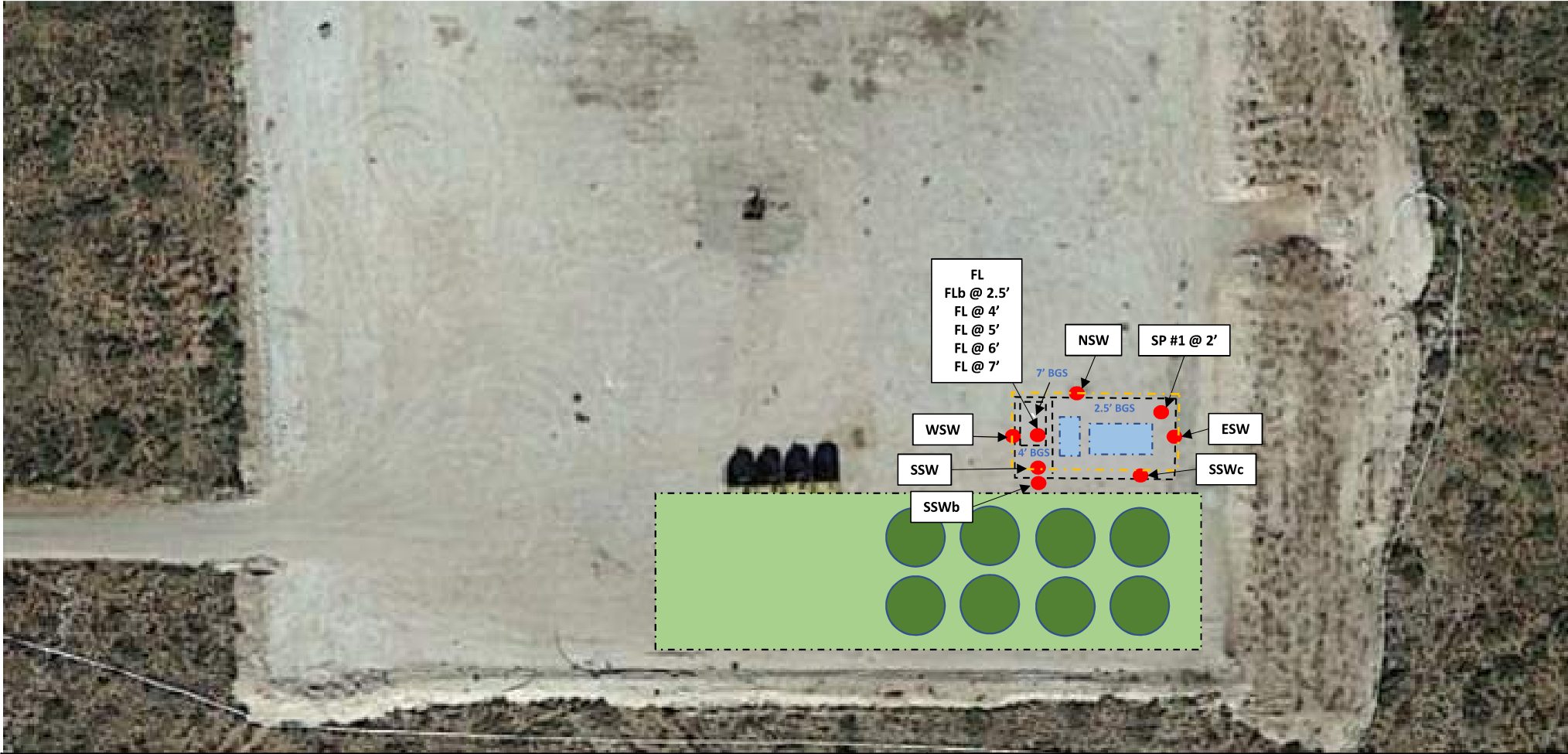
5.0 LIMITATIONS

TRC Environmental Corporation 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 Environmental Corporation has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. TRC Environmental Corporation 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 Environmental Corporation has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. TRC Environmental Corporation 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 Plains Pipeline, L.P. 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 Environmental Corporation and/or Plains Pipeline, L.P.

6.0 DISTRIBUTION

- Copy 1: Mike Bratcher & Maria Pruett
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division – District II
811 South First Street
Artesia, New Mexico 88210
- Copy 2: Shelly Tucker
Bureau of Land Management
620 East Greene Street
Carlsbad, New Mexico 88220
- Copy 3: Camille Bryant
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cjbryant@paalp.com
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333 Clay Street, Suite 1600
Houston, Texas 77002
jpdann@paalp.com
- Copy 5: TRC Environmental Corporation
10 Desta Drive, Suite 150E
Midland, Texas 79705
jlowry@trcsolutions.com



| | | |
|---------|------------------------|---------------------------|
| LEGEND: | COG Tank Battery | Firewall |
| | Plains LACT Unit | Above-Ground Storage Tank |
| | Excavated Area | |
| | Sample Location Points | |

Figure 2
 Site & Sample Location Map
 Plains Pipeline, LP
 COG Patron 23 Federal No. 004H
 Eddy County, New Mexico

| | |
|--|----------------|
| Scale 1" = ~60' | |
| Drafted by: ZC | Checked by: JL |
| Draft: August 1, 2018 | |
| Lat. N 32.1217918 Long. W -103.9478047 | |
| UL "A", Sec. 23, T25S, R29E | |
| TRC Proj. No.300494 | |

| | |
|--|--|
| | 10 Desta Drive Suite 150E Midland, TX 79705 |
| | 432.520.7720 PHONE 432.520.7701 FAX |
| | www.trcsolutions.com |
| | |

TABLE 1
CONCENTRATIONS OF BENZENE, BTEX, TPH, AND CHLORIDE IN SOIL
COG PATRON 23 FEDERAL No. 004H
PLAINS PIPELINE, L.P.
EDDY COUNTY, NM
NMOCD REF. No. 2RP-4665

| SAMPLE LOCATION | SAMPLE DATE | SAMPLE DEPTH | STATUS | Methods: EPA SW 846-8021B, 5030 | | | | | Methods: | | | | Method: |
|----------------------------|-------------|--------------|-----------|---------------------------------|--------------------|------------------------------|------------------------------|--------------------------|------------------|----------------|----------------|-------------------------|---------------------------------|
| | | | | BENZENE (mg/kg) | TOLUENE (mg/kg) | ETHYL- BENZENE (mg/kg) | XYLENES, TOTAL (mg/kg) | TOTAL BTEX (mg/kg) | EPA SW 846-8015M | | | | E300 CHLORIDE (mg/kg) |
| | | | | | | | | | GRO (mg/kg) | DRO (mg/kg) | ORO (mg/kg) | TOTAL TPH (mg/kg) | |
| FL | 3/30/2018 | 1' | Excavated | <0.000383 | 0.0256 | 0.0620 | 0.706 | 0.7936 | 1,480 | 19,600 | 2,440 | 23,520 | 165 |
| WSW | 3/30/2018 | 6" | In-Situ | <0.000386 | <0.000457 | <0.000566 | <0.000345 | <0.000345 | <7.98 | 485 | 73.1 | 558.1 | - |
| SSW | 3/30/2018 | 6" | Excavated | <0.000383 | 0.0179 | 0.0216 | 0.2364 | 0.2759 | 950 | 9,620 | 1,140 | 11,710 | - |
| NSW | 3/30/2018 | 6" | In-Situ | <0.000384 | <0.000455 | <0.000564 | 0.01305 | 0.01305 | 58.7 | 3,130 | 465 | 3,653.7 | - |
| ESW | 3/30/2018 | 6" | In-Situ | <0.000382 | 0.00225 | 0.00350 | 0.02835 | 0.0341 | 91.9 | 743 | 71.6 | 906.5 | - |
| | | | | | | | | | | | | | |
| SP #1 @ 2' | 4/30/2018 | 2' | Excavated | - | - | - | - | - | 296 | 5,920 | 135 | 6,351 | - |
| SSWb | 4/30/2018 | 1.5' | In-Situ | - | - | - | - | - | 134 | 4,260 | 38.4 | 4,432.4 | - |
| | | | | | | | | | | | | | |
| Flb @ 2.5' | 5/21/2018 | 2.5' | Excavated | - | - | - | - | - | 180 | 5,590 | 562 | 6,332 | - |
| SSWc | 5/21/2018 | 1.5' | In-Situ | - | - | - | - | - | 26.1 | 2,180 | 279 | 2,485.1 | - |
| | | | | | | | | | | | | | |
| FL @ 4' | 6/20/2018 | 4' | In-Situ | - | - | - | - | - | 2,560 | 4,810 | 611 | 7,981 | - |
| | | | | | | | | | | | | | |
| FL @ 5' | 7/24/2018 | 5' | Excavated | - | - | - | - | - | 2,790 | 8,730 | 61.7 | 11,581.7 | - |
| FL @ 6' | 7/24/2018 | 6' | Excavated | - | - | - | - | - | 1,430 | 7,720 | 49.3 | 9,199.3 | - |
| FL @ 7' | 7/24/2018 | 7' | In-Situ | - | - | - | - | - | 684 | 5,870 | 41.8 | 6,595.8 | - |
| NMOCD Regulatory Guideline | | | | 10 | - | - | - | 50 | - | - | - | 5,000 | 600 |



Figure 1 - View of affected area prior to excavation activities, facing Southwest

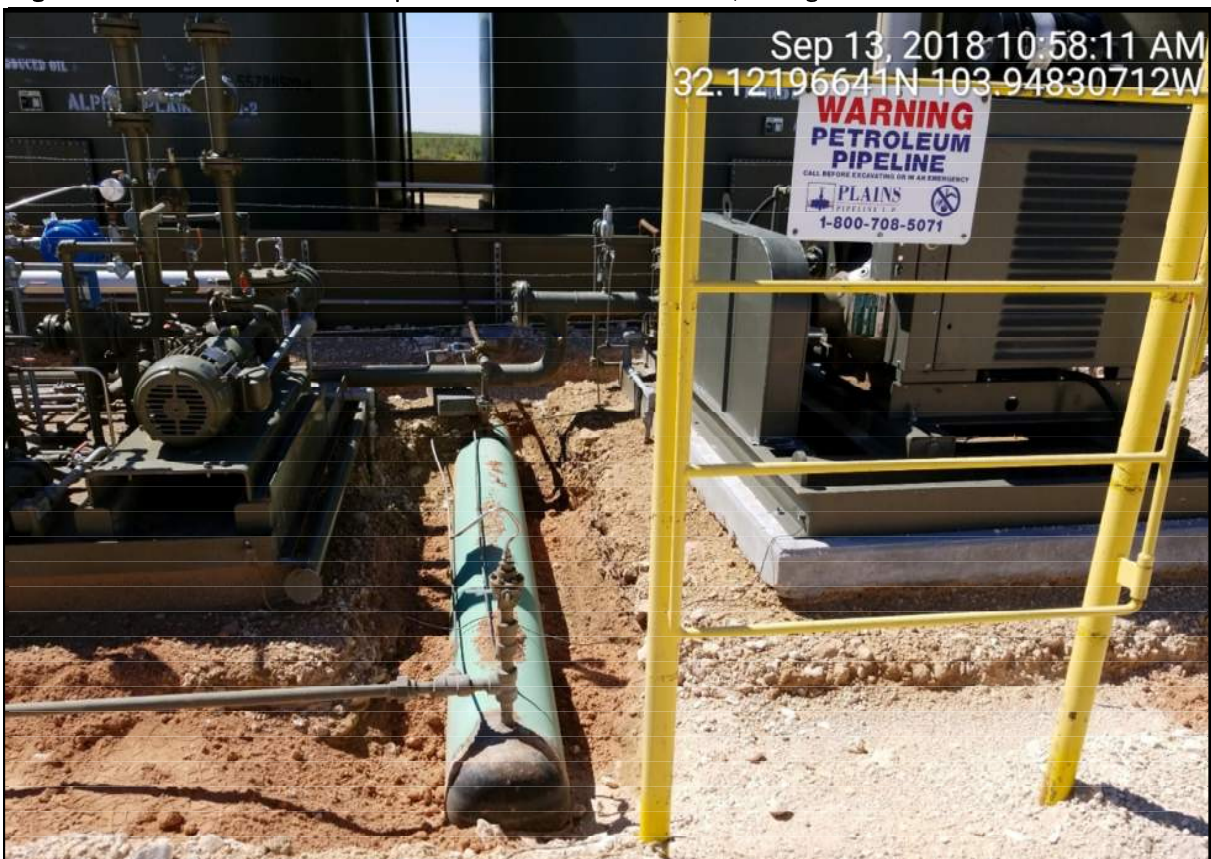


Figure 2 - View of affected area after excavation activities, facing South



Figure 3 - View of affected area after excavation activities, facing East



Figure 4 - View of affected area after excavation activities, facing East



Figure 5 - View of affected area after remediation activities, facing South.



Figure 6 - View of affected area after remediation activities, facing South.



Figure 7 - View of affected area after remediation activities, facing South



Figure 8 - View of affected area after remediation activities, facing East

Analytical Report 581096

for
TRC Solutions, Inc

Project Manager: Joel Lowry

COG Patron #23 004

10-APR-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Dallas (EPA Lab code: TX01468):

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

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

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

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

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10-APR-18

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

Reference: XENCO Report No(s): **581096**
COG Patron #23 004
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) 581096. 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. 581096 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks

Project Manager

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 581096



TRC Solutions, Inc, Midland, TX

COG Patron #23 004

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|-----------|--------|----------------|--------------|---------------|
| FL | S | 03-30-18 09:00 | 1 ft | 581096-001 |
| WSW | S | 03-30-18 09:05 | 6 In | 581096-002 |
| SSW | S | 03-30-18 09:10 | 6 In | 581096-003 |
| NSW | S | 03-30-18 09:15 | 6 In | 581096-004 |
| ESW | S | 03-30-18 00:00 | In | 581096-005 |



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: COG Patron #23 004

Project ID:
Work Order Number(s): 581096

Report Date: 10-APR-18
Date Received: 04/03/2018

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3045540 TPH by SW8015 Mod

Diesel Range Organics (DRO), Gasoline Range Hydrocarbons (GRO) RPD was outside laboratory control limits.

Samples in the analytical batch are: 581096-001, -002, -003, -004

Batch: LBA-3045650 Inorganic Anions by EPA 300/300.1

E300

Batch 3045650,

Chloride recovered below QC limits in the Blank Spike and Duplicate. Samples in the analytical batch are: 581096-001.

Batch: LBA-3045814 BTEX by EPA 8021

Lab Sample ID 581096-004 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: 581096-001, -004, -005.

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

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

Samples affected are: 581096-001.

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



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: COG Patron #23 004

Project ID:
Work Order Number(s): 581096

Report Date: 10-APR-18
Date Received: 04/03/2018

Batch: LBA-3046139 BTEX by EPA 8021

Lab Sample ID 581096-002 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: 581096-002, -003.

The Laboratory Control Sample for Toluene, Ethylbenzene, m_p-Xylenes , 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 Analytical Results

581096



TRC Solutions, Inc, Midland, TX

COG Patron #23 004

Sample Id: FL Matrix: Soil Sample Depth: 1 ft
Lab Sample Id: 581096-001 Date Collected: 03.30.18 09.00 Date Received: 04.03.18 10.18
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: OJS % Moist: Tech: OJS
Seq Number: 3045650 Date Prep: 04.03.18 16.45
Prep seq: 7641966

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|--------|------|-------|-------|----------------|------|------------|
| Chloride | 16887-00-6 | 165 | 4.95 | 0.850 | mg/kg | 04.04.18 09:40 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3045540 Date Prep: 04.03.18 14.00
Prep seq: 7641929

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|-----|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 1480 | 150 | 79.9 | mg/kg | 04.04.18 09:05 | F | 10 |
| Diesel Range Organics (DRO) | C10C28DRO | 19600 | 150 | 81.1 | mg/kg | 04.04.18 09:05 | F | 10 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | 2440 | 150 | 81.1 | mg/kg | 04.04.18 09:05 | | 10 |
| Total TPH | PHC635 | 23520 | | 79.9 | mg/kg | 04.04.18 09:05 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 100 | 70 - 135 | % | | |
| o-Terphenyl | 93 | 70 - 135 | % | | |

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3045814 Date Prep: 04.05.18 10.00
Prep seq: 7642116

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|----------------|-------------|-----------|---------|----------|-------|----------------|------|------------|
| Benzene | 71-43-2 | <0.000383 | 0.00199 | 0.000383 | mg/kg | 04.05.18 19:42 | U | 1 |
| Toluene | 108-88-3 | 0.0256 | 0.00199 | 0.000454 | mg/kg | 04.05.18 19:42 | | 1 |
| Ethylbenzene | 100-41-4 | 0.0620 | 0.00199 | 0.000563 | mg/kg | 04.05.18 19:42 | | 1 |
| m_p-Xylenes | 179601-23-1 | 0.518 | 0.00398 | 0.00101 | mg/kg | 04.05.18 19:42 | | 1 |
| o-Xylene | 95-47-6 | 0.188 | 0.00199 | 0.000343 | mg/kg | 04.05.18 19:42 | | 1 |
| Xylenes, Total | 1330-20-7 | 0.706 | | 0.000343 | mg/kg | 04.05.18 19:42 | | |
| Total BTEX | | 0.7936 | | 0.000343 | mg/kg | 04.05.18 19:42 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------------|------------|----------|-------|---------------|------|
| 1,4-Difluorobenzene | 82 | 70 - 130 | % | | |
| 4-Bromofluorobenzene | 195 | 70 - 130 | % | | ** |



Certificate of Analytical Results

581096



TRC Solutions, Inc, Midland, TX

COG Patron #23 004

Sample Id: WSW

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 581096-002

Date Collected: 03.30.18 09.05

Date Received: 04.03.18 10.18

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3045540

Date Prep: 04.03.18 14.00

Prep seq: 7641929

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <7.98 | 15.0 | 7.98 | mg/kg | 04.03.18 18:58 | UF | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | 485 | 15.0 | 8.10 | mg/kg | 04.03.18 18:58 | F | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | 73.1 | 15.0 | 8.10 | mg/kg | 04.03.18 18:58 | | 1 |
| Total TPH | PHC635 | 558.1 | | 7.98 | mg/kg | 04.03.18 18:58 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 94 | 70 - 135 | % | | |
| o-Terphenyl | 98 | 70 - 135 | % | | |

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3046139

Date Prep: 04.05.18 16.30

Prep seq: 7642137

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|----------------|-------------|-----------|---------|----------|-------|----------------|------|------------|
| Benzene | 71-43-2 | <0.000386 | 0.00200 | 0.000386 | mg/kg | 04.05.18 22:36 | U | 1 |
| Toluene | 108-88-3 | <0.000457 | 0.00200 | 0.000457 | mg/kg | 04.05.18 22:36 | UX | 1 |
| Ethylbenzene | 100-41-4 | <0.000566 | 0.00200 | 0.000566 | mg/kg | 04.05.18 22:36 | UX | 1 |
| m_p-Xylenes | 179601-23-1 | <0.00102 | 0.00401 | 0.00102 | mg/kg | 04.05.18 22:36 | UX | 1 |
| o-Xylene | 95-47-6 | <0.000345 | 0.00200 | 0.000345 | mg/kg | 04.05.18 22:36 | UX | 1 |
| Xylenes, Total | 1330-20-7 | <0.000345 | | 0.000345 | mg/kg | 04.05.18 22:36 | U | |
| Total BTEX | | <0.000345 | | 0.000345 | mg/kg | 04.05.18 22:36 | U | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------------|------------|----------|-------|---------------|------|
| 1,4-Difluorobenzene | 96 | 70 - 130 | % | | |
| 4-Bromofluorobenzene | 89 | 70 - 130 | % | | |



Certificate of Analytical Results

581096



TRC Solutions, Inc, Midland, TX

COG Patron #23 004

Sample Id: SSW Matrix: Soil Sample Depth: 6 In
Lab Sample Id: 581096-003 Date Collected: 03.30.18 09.10 Date Received: 04.03.18 10.18
Analytical Method: TPH by SW8015 Mod Prep Method: 1005
Analyst: ARM % Moist: Tech: ARM
Seq Number: 3045540 Date Prep: 04.03.18 14.00
Prep seq: 7641929

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 950 | 74.8 | 39.9 | mg/kg | 04.04.18 09:31 | F | 5 |
| Diesel Range Organics (DRO) | C10C28DRO | 9620 | 74.8 | 40.5 | mg/kg | 04.04.18 09:31 | F | 5 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | 1140 | 74.8 | 40.5 | mg/kg | 04.04.18 09:31 | | 5 |
| Total TPH | PHC635 | 11710 | | 39.9 | mg/kg | 04.04.18 09:31 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 94 | 70 - 135 | % | | |
| o-Terphenyl | 88 | 70 - 135 | % | | |

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B
Analyst: ALJ % Moist: Tech: ALJ
Seq Number: 3046139 Date Prep: 04.05.18 16.30
Prep seq: 7642137

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|----------------|-------------|-----------|---------|----------|-------|----------------|------|------------|
| Benzene | 71-43-2 | <0.000383 | 0.00199 | 0.000383 | mg/kg | 04.05.18 22:55 | U | 1 |
| Toluene | 108-88-3 | 0.0179 | 0.00199 | 0.000453 | mg/kg | 04.05.18 22:55 | | 1 |
| Ethylbenzene | 100-41-4 | 0.0216 | 0.00199 | 0.000561 | mg/kg | 04.05.18 22:55 | | 1 |
| m_p-Xylenes | 179601-23-1 | 0.171 | 0.00398 | 0.00101 | mg/kg | 04.05.18 22:55 | | 1 |
| o-Xylene | 95-47-6 | 0.0654 | 0.00199 | 0.000342 | mg/kg | 04.05.18 22:55 | | 1 |
| Xylenes, Total | 1330-20-7 | 0.2364 | | 0.000342 | mg/kg | 04.05.18 22:55 | | |
| Total BTEX | | 0.2759 | | 0.000342 | mg/kg | 04.05.18 22:55 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------------|------------|----------|-------|---------------|------|
| 1,4-Difluorobenzene | 75 | 70 - 130 | % | | |
| 4-Bromofluorobenzene | 119 | 70 - 130 | % | | |



Certificate of Analytical Results

581096



TRC Solutions, Inc, Midland, TX

COG Patron #23 004

Sample Id: NSW

Matrix: Soil

Sample Depth: 6 In

Lab Sample Id: 581096-004

Date Collected: 03.30.18 09.15

Date Received: 04.03.18 10.18

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3045540

Date Prep: 04.03.18 14.00

Prep seq: 7641929

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 58.7 | 15.0 | 8.00 | mg/kg | 04.03.18 19:44 | F | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | 3130 | 15.0 | 8.13 | mg/kg | 04.03.18 19:44 | F | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | 465 | 15.0 | 8.13 | mg/kg | 04.03.18 19:44 | | 1 |
| Total TPH | PHC635 | 3653.7 | | 8 | mg/kg | 04.03.18 19:44 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 90 | 70 - 135 | % | | |
| o-Terphenyl | 84 | 70 - 135 | % | | |

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3045814

Date Prep: 04.05.18 10.00

Prep seq: 7642116

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|----------------|-------------|-----------|---------|----------|-------|----------------|------|------------|
| Benzene | 71-43-2 | <0.000384 | 0.00200 | 0.000384 | mg/kg | 04.05.18 11:38 | UX | 1 |
| Toluene | 108-88-3 | <0.000455 | 0.00200 | 0.000455 | mg/kg | 04.05.18 11:38 | UX | 1 |
| Ethylbenzene | 100-41-4 | <0.000564 | 0.00200 | 0.000564 | mg/kg | 04.05.18 11:38 | UX | 1 |
| m_p-Xylenes | 179601-23-1 | 0.00869 | 0.00399 | 0.00101 | mg/kg | 04.05.18 11:38 | X | 1 |
| o-Xylene | 95-47-6 | 0.00436 | 0.00200 | 0.000344 | mg/kg | 04.05.18 11:38 | X | 1 |
| Xylenes, Total | 1330-20-7 | 0.01305 | | 0.000344 | mg/kg | 04.05.18 11:38 | | |
| Total BTEX | | 0.01305 | | 0.000344 | mg/kg | 04.05.18 11:38 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------------|------------|----------|-------|---------------|------|
| 1,4-Difluorobenzene | 88 | 70 - 130 | % | | |
| 4-Bromofluorobenzene | 89 | 70 - 130 | % | | |



Certificate of Analytical Results

581096



TRC Solutions, Inc, Midland, TX

COG Patron #23 004

Sample Id: ESW

Matrix: Soil

Sample Depth:

Lab Sample Id: 581096-005

Date Collected: 03.30.18 00.00

Date Received: 04.03.18 10.18

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3045830

Date Prep: 04.05.18 12.00

Prep seq: 7642101

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 91.9 | 15.0 | 7.99 | mg/kg | 04.05.18 15:16 | | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | 743 | 15.0 | 8.11 | mg/kg | 04.05.18 15:16 | | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | 71.6 | 15.0 | 8.11 | mg/kg | 04.05.18 15:16 | | 1 |
| Total TPH | PHC635 | 906.5 | | 7.99 | mg/kg | 04.05.18 15:16 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 102 | 70 - 135 | % | | |
| o-Terphenyl | 105 | 70 - 135 | % | | |

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3045814

Date Prep: 04.05.18 10.00

Prep seq: 7642116

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|----------------|-------------|-----------|---------|----------|-------|----------------|------|------------|
| Benzene | 71-43-2 | <0.000382 | 0.00198 | 0.000382 | mg/kg | 04.05.18 14:05 | U | 1 |
| Toluene | 108-88-3 | 0.00225 | 0.00198 | 0.000452 | mg/kg | 04.05.18 14:05 | | 1 |
| Ethylbenzene | 100-41-4 | 0.00350 | 0.00198 | 0.000560 | mg/kg | 04.05.18 14:05 | | 1 |
| m_p-Xylenes | 179601-23-1 | 0.0201 | 0.00397 | 0.00101 | mg/kg | 04.05.18 14:05 | | 1 |
| o-Xylene | 95-47-6 | 0.00825 | 0.00198 | 0.000342 | mg/kg | 04.05.18 14:05 | | 1 |
| Xylenes, Total | 1330-20-7 | 0.02835 | | 0.000342 | mg/kg | 04.05.18 14:05 | | |
| Total BTEX | | 0.0341 | | 0.000342 | mg/kg | 04.05.18 14:05 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------------|------------|----------|-------|---------------|------|
| 1,4-Difluorobenzene | 74 | 70 - 130 | % | | |
| 4-Bromofluorobenzene | 100 | 70 - 130 | % | | |



Certificate of Analytical Results

581096



TRC Solutions, Inc, Midland, TX

COG Patron #23 004

Sample Id: 7641929-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7641929-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3045540

Date Prep: 04.03.18 09.00

Prep seq: 7641929

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <8.00 | 15.0 | 8.00 | mg/kg | 04.03.18 09:35 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <8.13 | 15.0 | 8.13 | mg/kg | 04.03.18 09:35 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <8.13 | 15.0 | 8.13 | mg/kg | 04.03.18 09:35 | U | 1 |
| Total TPH | PHC635 | <8 | | 8 | mg/kg | 04.03.18 09:35 | U | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 88 | 70 - 135 | % | | |
| o-Terphenyl | 93 | 70 - 135 | % | | |

Sample Id: 7641966-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7641966-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: OJS

% Moist:

Tech: OJS

Seq Number: 3045650

Date Prep: 04.03.18 16.45

Prep seq: 7641966

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|--------|------|-------|-------|----------------|------|------------|
| Chloride | 16887-00-6 | <0.858 | 5.00 | 0.858 | mg/kg | 04.03.18 21:42 | U | 1 |



Certificate of Analytical Results

581096



TRC Solutions, Inc, Midland, TX

COG Patron #23 004

Sample Id: 7642101-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7642101-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3045830

Date Prep: 04.05.18 12.00

Prep seq: 7642101

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <8.00 | 15.0 | 8.00 | mg/kg | 04.05.18 13:09 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <8.13 | 15.0 | 8.13 | mg/kg | 04.05.18 13:09 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <8.13 | 15.0 | 8.13 | mg/kg | 04.05.18 13:09 | U | 1 |
| Total TPH | PHC635 | <8 | | 8 | mg/kg | 04.05.18 13:09 | U | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 93 | 70 - 135 | % | | |
| o-Terphenyl | 87 | 70 - 135 | % | | |

Sample Id: 7642116-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7642116-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3045814

Date Prep: 04.05.18 10.00

Prep seq: 7642116

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|--------------|-------------|-----------|---------|----------|-------|----------------|------|------------|
| Benzene | 71-43-2 | <0.000384 | 0.00200 | 0.000384 | mg/kg | 04.05.18 11:19 | U | 1 |
| Toluene | 108-88-3 | <0.000455 | 0.00200 | 0.000455 | mg/kg | 04.05.18 11:19 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000564 | 0.00200 | 0.000564 | mg/kg | 04.05.18 11:19 | U | 1 |
| m_p-Xylenes | 179601-23-1 | <0.00101 | 0.00399 | 0.00101 | mg/kg | 04.05.18 11:19 | U | 1 |
| o-Xylene | 95-47-6 | <0.000344 | 0.00200 | 0.000344 | mg/kg | 04.05.18 11:19 | U | 1 |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------------|------------|----------|-------|---------------|------|
| 1,4-Difluorobenzene | 90 | 70 - 130 | % | | |
| 4-Bromofluorobenzene | 85 | 70 - 130 | % | | |



Certificate of Analytical Results

581096



TRC Solutions, Inc, Midland, TX

COG Patron #23 004

Sample Id: 7642137-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7642137-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021

Prep Method: 5030B

Analyst: ALJ

% Moist:

Tech: ALJ

Seq Number: 3046139

Date Prep: 04.05.18 16.30

Prep seq: 7642137

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|--------------|-------------|-----------|---------|----------|-------|----------------|------|------------|
| Benzene | 71-43-2 | <0.000382 | 0.00198 | 0.000382 | mg/kg | 04.05.18 22:16 | U | 1 |
| Toluene | 108-88-3 | <0.000452 | 0.00198 | 0.000452 | mg/kg | 04.05.18 22:16 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.000560 | 0.00198 | 0.000560 | mg/kg | 04.05.18 22:16 | U | 1 |
| m_p-Xylenes | 179601-23-1 | <0.00101 | 0.00397 | 0.00101 | mg/kg | 04.05.18 22:16 | U | 1 |
| o-Xylene | 95-47-6 | <0.000342 | 0.00198 | 0.000342 | mg/kg | 04.05.18 22:16 | U | 1 |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------------|------------|----------|-------|---------------|------|
| 1,4-Difluorobenzene | 94 | 70 - 130 | % | | |
| 4-Bromofluorobenzene | 84 | 70 - 130 | % | | |

- 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: COG Patron #23 004

Work Orders : 581096,

Project ID:

Lab Batch #: 3045814

Sample: 7642116-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/05/18 09:22

SURROGATE RECOVERY STUDY

| BTEX by EPA 8021 Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|----------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1,4-Difluorobenzene | 0.0313 | 0.0300 | 104 | 70-130 | |
| 4-Bromofluorobenzene | 0.0314 | 0.0300 | 105 | 70-130 | |

Lab Batch #: 3045814

Sample: 7642116-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/05/18 09:42

SURROGATE RECOVERY STUDY

| BTEX by EPA 8021 Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|----------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1,4-Difluorobenzene | 0.0301 | 0.0300 | 100 | 70-130 | |
| 4-Bromofluorobenzene | 0.0297 | 0.0300 | 99 | 70-130 | |

Lab Batch #: 3045814

Sample: 581096-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/05/18 10:01

SURROGATE RECOVERY STUDY

| BTEX by EPA 8021 Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|----------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1,4-Difluorobenzene | 0.0274 | 0.0300 | 91 | 70-130 | |
| 4-Bromofluorobenzene | 0.0278 | 0.0300 | 93 | 70-130 | |

Lab Batch #: 3045814

Sample: 581096-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/05/18 10:20

SURROGATE RECOVERY STUDY

| BTEX by EPA 8021 Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|----------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1,4-Difluorobenzene | 0.0276 | 0.0300 | 92 | 70-130 | |
| 4-Bromofluorobenzene | 0.0304 | 0.0300 | 101 | 70-130 | |

Lab Batch #: 3045814

Sample: 7642116-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/05/18 11:19

SURROGATE RECOVERY STUDY

| BTEX by EPA 8021 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 | 0.0256 | 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: COG Patron #23 004

Work Orders : 581096,

Project ID:

Lab Batch #: 3046139

Sample: 7642137-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/05/18 20:21

SURROGATE RECOVERY STUDY

| BTEX by EPA 8021 Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1,4-Difluorobenzene | 0.0299 | 0.0300 | 100 | 70-130 | |
| 4-Bromofluorobenzene | 0.0257 | 0.0300 | 86 | 70-130 | |

Lab Batch #: 3046139

Sample: 7642137-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/05/18 20:40

SURROGATE RECOVERY STUDY

| BTEX by EPA 8021 Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1,4-Difluorobenzene | 0.0294 | 0.0300 | 98 | 70-130 | |
| 4-Bromofluorobenzene | 0.0254 | 0.0300 | 85 | 70-130 | |

Lab Batch #: 3046139

Sample: 581096-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/05/18 20:59

SURROGATE RECOVERY STUDY

| BTEX by EPA 8021 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 | 0.0287 | 0.0300 | 96 | 70-130 | |

Lab Batch #: 3046139

Sample: 581096-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/05/18 21:18

SURROGATE RECOVERY STUDY

| BTEX by EPA 8021 Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1,4-Difluorobenzene | 0.0296 | 0.0300 | 99 | 70-130 | |
| 4-Bromofluorobenzene | 0.0271 | 0.0300 | 90 | 70-130 | |

Lab Batch #: 3046139

Sample: 7642137-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/05/18 22:16

SURROGATE RECOVERY STUDY

| BTEX by EPA 8021 Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1,4-Difluorobenzene | 0.0282 | 0.0300 | 94 | 70-130 | |
| 4-Bromofluorobenzene | 0.0252 | 0.0300 | 84 | 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: COG Patron #23 004

Work Orders : 581096,

Project ID:

Lab Batch #: 3045540

Sample: 7641929-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/03/18 09:35

SURROGATE RECOVERY STUDY

| TPH by SW8015 Mod Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|-------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1-Chlorooctane | 88.3 | 100 | 88 | 70-135 | |
| o-Terphenyl | 46.5 | 50.0 | 93 | 70-135 | |

Lab Batch #: 3045540

Sample: 7641929-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/03/18 09:58

SURROGATE RECOVERY STUDY

| TPH by SW8015 Mod Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|-------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1-Chlorooctane | 109 | 100 | 109 | 70-135 | |
| o-Terphenyl | 47.3 | 50.0 | 95 | 70-135 | |

Lab Batch #: 3045540

Sample: 7641929-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/03/18 10:21

SURROGATE RECOVERY STUDY

| TPH by SW8015 Mod Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|-------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1-Chlorooctane | 129 | 100 | 129 | 70-135 | |
| o-Terphenyl | 62.1 | 50.0 | 124 | 70-135 | |

Lab Batch #: 3045540

Sample: 580999-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/03/18 11:42

SURROGATE RECOVERY STUDY

| TPH by SW8015 Mod Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|-------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1-Chlorooctane | 104 | 99.9 | 104 | 70-135 | |
| o-Terphenyl | 46.0 | 50.0 | 92 | 70-135 | |

Lab Batch #: 3045540

Sample: 580999-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/03/18 12:05

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 | 99.9 | 93 | 70-135 | |
| o-Terphenyl | 42.6 | 50.0 | 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: COG Patron #23 004

Work Orders : 581096,

Project ID:

Lab Batch #: 3045830

Sample: 7642101-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/05/18 13:09

SURROGATE RECOVERY STUDY

| TPH by SW8015 Mod Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1-Chlorooctane | 92.7 | 100 | 93 | 70-135 | |
| o-Terphenyl | 43.3 | 50.0 | 87 | 70-135 | |

Lab Batch #: 3045830

Sample: 7642101-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/05/18 13:31

SURROGATE RECOVERY STUDY

| TPH by SW8015 Mod Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1-Chlorooctane | 97.1 | 100 | 97 | 70-135 | |
| o-Terphenyl | 48.5 | 50.0 | 97 | 70-135 | |

Lab Batch #: 3045830

Sample: 7642101-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/05/18 13:52

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 | 49.3 | 50.0 | 99 | 70-135 | |

Lab Batch #: 3045830

Sample: 581096-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/05/18 15:36

SURROGATE RECOVERY STUDY

| TPH by SW8015 Mod Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1-Chlorooctane | 109 | 99.8 | 109 | 70-135 | |
| o-Terphenyl | 53.5 | 49.9 | 107 | 70-135 | |

Lab Batch #: 3045830

Sample: 581096-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/05/18 15:57

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 | 47.7 | 50.0 | 95 | 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.

Project Name: COG Patron #23 004

Work Order #: 581096

Analyst: ALJ

Lab Batch ID: 3045814

Units: mg/kg

Date Prepared: 04/05/2018

Sample: 7642116-1-BKS

Batch #: 1

Project ID:

Date Analyzed: 04/05/2018

Matrix: Solid

| BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY | | | | | | | | | | | |
|---|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| BTEX by EPA 8021 | | | | | | | | | | | |
| Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| Benzene | <0.000386 | 0.100 | 0.127 | 127 | 0.101 | 0.120 | 119 | 6 | 70-130 | 35 | |
| Toluene | <0.000457 | 0.100 | 0.120 | 120 | 0.101 | 0.113 | 112 | 6 | 70-130 | 35 | |
| Ethylbenzene | <0.000567 | 0.100 | 0.115 | 115 | 0.101 | 0.108 | 107 | 6 | 70-130 | 35 | |
| m_p-Xylenes | <0.00102 | 0.201 | 0.238 | 118 | 0.202 | 0.223 | 110 | 7 | 70-130 | 35 | |
| o-Xylene | <0.000346 | 0.100 | 0.117 | 117 | 0.101 | 0.111 | 110 | 5 | 70-130 | 35 | |

Analyst: ALJ

Lab Batch ID: 3046139

Units: mg/kg

Date Prepared: 04/05/2018

Sample: 7642137-1-BKS

Batch #: 1

Date Analyzed: 04/05/2018

Matrix: Solid

| BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY | | | | | | | | | | | |
|---|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| BTEX by EPA 8021 | | | | | | | | | | | |
| Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| Benzene | <0.000386 | 0.100 | 0.122 | 122 | 0.0998 | 0.115 | 115 | 6 | 70-130 | 35 | |
| Toluene | <0.000457 | 0.100 | 0.116 | 116 | 0.0998 | 0.109 | 109 | 6 | 70-130 | 35 | |
| Ethylbenzene | <0.000567 | 0.100 | 0.111 | 111 | 0.0998 | 0.104 | 104 | 7 | 70-130 | 35 | |
| m_p-Xylenes | <0.00102 | 0.201 | 0.229 | 114 | 0.200 | 0.213 | 107 | 7 | 70-130 | 35 | |
| o-Xylene | <0.000346 | 0.100 | 0.115 | 115 | 0.0998 | 0.107 | 107 | 7 | 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

Project Name: COG Patron #23 004

Work Order #: 581096

Analyst: OJS

Lab Batch ID: 3045650

Units: mg/kg

Date Prepared: 04/03/2018

Sample: 7641966-1-BKS

Batch #: 1

Project ID:

Date Analyzed: 04/03/2018

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| Inorganic Anions by EPA 300/300.1 | | | | | | | | | | | |
|-----------------------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| | Chloride | <0.858 | 250 | 241 | 96 | 250 | 236 | 94 | 2 | 90-110 | 20 |

Analyst: ARM

Lab Batch ID: 3045540

Units: mg/kg

Date Prepared: 04/03/2018

Sample: 7641929-1-BKS

Batch #: 1

Date Analyzed: 04/03/2018

Matrix: Solid

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) | <8.00 | 1000 | 901 | 90 | 1000 | 1150 | 115 | 24 | 70-135 | 20 | F |
| | Diesel Range Organics (DRO) | <8.13 | 1000 | 942 | 94 | 1000 | 1190 | 119 | 23 | 70-135 | 20 | F |

Analyst: ARM

Lab Batch ID: 3045830

Units: mg/kg

Date Prepared: 04/05/2018

Sample: 7642101-1-BKS

Batch #: 1

Date Analyzed: 04/05/2018

Matrix: Solid

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) | <8.00 | 1000 | 859 | 86 | 1000 | 897 | 90 | 4 | 70-135 | 20 | |
| | Diesel Range Organics (DRO) | <8.13 | 1000 | 910 | 91 | 1000 | 951 | 95 | 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: COG Patron #23 004



Work Order #: 581096
Lab Batch ID: 3045814
Date Analyzed: 04/05/2018
Reporting Units: mg/kg

Project ID: 581096-004 S
QC- Sample ID: 581096-004 S
Date Prepared: 04/05/2018
Batch #: 1
Matrix: Soil
Analyst: ALJ

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| BTEx by EPA 8021 | | 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 |
|------------------|--|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| Analytes | | | | | | | | | | | | |
| Benzene | | <0.000388 | 0.101 | 0.0537 | 53 | 0.0994 | 0.0583 | 59 | 8 | 70-130 | 35 | X |
| Toluene | | <0.000459 | 0.101 | 0.0365 | 36 | 0.0994 | 0.0414 | 42 | 13 | 70-130 | 35 | X |
| Ethylbenzene | | <0.000569 | 0.101 | 0.0248 | 25 | 0.0994 | 0.0327 | 33 | 27 | 70-130 | 35 | X |
| m,p-Xylenes | | 0.00869 | 0.202 | 0.0597 | 25 | 0.199 | 0.0707 | 31 | 17 | 70-130 | 35 | X |
| o-Xylene | | 0.00436 | 0.101 | 0.0315 | 27 | 0.0994 | 0.0399 | 36 | 24 | 70-130 | 35 | X |

Lab Batch ID: 3046139
Date Analyzed: 04/05/2018
Reporting Units: mg/kg

QC- Sample ID: 581096-002 S
Date Prepared: 04/05/2018
Batch #: 1
Matrix: Soil
Analyst: ALJ

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| BTEx by EPA 8021 | | 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 |
|------------------|--|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| Analytes | | | | | | | | | | | | |
| Benzene | | <0.000386 | 0.100 | 0.0822 | 82 | 0.0996 | 0.0869 | 87 | 6 | 70-130 | 35 | |
| Toluene | | <0.000457 | 0.100 | 0.0609 | 61 | 0.0996 | 0.0705 | 71 | 15 | 70-130 | 35 | X |
| Ethylbenzene | | <0.000566 | 0.100 | 0.0434 | 43 | 0.0996 | 0.0553 | 56 | 24 | 70-130 | 35 | X |
| m,p-Xylenes | | <0.00102 | 0.200 | 0.0869 | 43 | 0.199 | 0.111 | 56 | 24 | 70-130 | 35 | X |
| o-Xylene | | <0.000345 | 0.100 | 0.0449 | 45 | 0.0996 | 0.0578 | 58 | 25 | 70-130 | 35 | X |

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: COG Patron #23 004



Work Order #: 581096

Project ID:

Lab Batch ID: 3045650

QC- Sample ID: 581087-014 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/03/2018

Date Prepared: 04/03/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| Inorganic Anions by EPA 300/300.1 | | | | | | | | | | | |
|-----------------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| 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 | 264 | 250 | 504 | 96 | 250 | 514 | 100 | 2 | 90-110 | 20 | |

Lab Batch ID: 3045650

QC- Sample ID: 581087-017 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/03/2018

Date Prepared: 04/03/2018

Analyst: OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| Inorganic Anions by EPA 300/300.1 | | | | | | | | | | | |
|-----------------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| 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 | 41.0 | 250 | 283 | 97 | 250 | 280 | 96 | 1 | 90-110 | 20 | |

Lab Batch ID: 3045540

QC- Sample ID: 580999-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/03/2018

Date Prepared: 04/03/2018

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) | <7.99 | 999 | 1020 | 102 | 999 | 926 | 93 | 10 | 70-135 | 20 | |
| Diesel Range Organics (DRO) | 12.7 | 999 | 1100 | 109 | 999 | 1040 | 103 | 6 | 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.



Form 3 - MS / MSD Recoveries

Project Name: COG Patron #23 004



Work Order # : 581096

Lab Batch ID: 3045830

Date Analyzed: 04/05/2018

Reporting Units: mg/kg

QC- Sample ID: 581096-005 S

Date Prepared: 04/05/2018

Project ID:

Batch #: 1

Analyst: ARM

Matrix: Soil

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) | 91.9 | 998 | 1020 | 93 | 1000 | 990 | 90 | 3 | 70-135 | 20 | |
| Diesel Range Organics (DRO) | 743 | 998 | 1860 | 112 | 1000 | 1880 | 114 | 1 | 70-135 | 20 | |

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$

Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

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.

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

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Final 1.000

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581096

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------------------------|--------------|---------|------|--------|--|-----|-----------------|------------------|--------------------------------|------|--|------|--------------|----------|-----------|----------|--|--|--|--|--|--|-------------------------------|--|--|--|--|--|
| Client / Reporting Information | | | | | | Project Information | | | | | | | | | | | | | | | | | | | | | | | |
| Company Name / Branch: | | | | | | Project Name/Number: | | | | | | | | | | | | | | | | | | | | | | | |
| TRC Environmental | | | | | | COG #0023 00# | | | | | | | | | | | | | | | | | | | | | | | |
| Company Address: 2057 Commerce Drive Midland, TX 79703 | | | | | | Project Location: | | | | | | | | | | | | | | | | | | | | | | | |
| Email: jlowry@trcsolutions.com | | | | | | Invoice To: | | | | | | | | | | | | | | | | | | | | | | | |
| Phone No: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project Contact: Joel Lowry | | | | | | Plains Reserve & Carville Boggs | | | | | | | | | | | | | | | | | | | | | | | |
| Sampler's Name Joel Lowry | | | | | | Invoice SRS No. Pending | | | | | | | | | | | | | | | | | | | | | | | |
| No. | Field ID / Point of Collection | | | | | Collection | | | | Number of preserved bottles | | | | Matrix Codes | | | | Field Comments | | | | | | | | | | | |
| 1 | FEL | Sample Depth | Date | Time | Matrix | # of bottles | HCl | NaOH/Zn Acetate | HNO ₃ | H ₂ SO ₄ | NaOH | NaHSO ₄ | MeOH | NONE | TPH 8015 | BTEX 8021 | Chloride | | | | | | | | | | | | |
| 2 | MSSW | 1' | 3/30/18 | 9:00 | S | 1 | X | X | X | | | | | | | | | | | | | | | | | | | | |
| 3 | MSSW | 6" | 3/30/18 | 9:05 | S | 1 | X | X | X | | | | | | | | | | | | | | | | | | | | |
| 4 | MSSW | 6" | 3/30/18 | 9:10 | S | 1 | X | X | X | | | | | | | | | | | | | | | | | | | | |
| 5 | E SW | 6" | 3/30/18 | 9:15 | S | 1 | X | X | X | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Turnaround Time (Business days) | | | | | | Data Deliverable information | | | | | | Notes: | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Same Day TAT | | | | | | <input type="checkbox"/> Level II Std QC | | | | | | <input type="checkbox"/> Level IV (Full Data Pkg raw date) | | | | | | JLowry@TRCSOLUTIONS.COM | | | | | | | | | | | |
| <input type="checkbox"/> Next Day EMERGENCY | | | | | | <input type="checkbox"/> 7 Day TAT | | | | | | <input type="checkbox"/> Level III Std QC+Forms | | | | | | <input type="checkbox"/> TRRP Level IV | | | | | | ESBYS@PHALP.COM | | | | | |
| <input checked="" type="checkbox"/> 2 Day EMERGENCY | | | | | | <input checked="" type="checkbox"/> Contract TAT | | | | | | <input type="checkbox"/> Level 3 (CLP Forms) | | | | | | <input type="checkbox"/> UST/RG-411 | | | | | | ALGROVES@PHALP.COM | | | | | |
| <input type="checkbox"/> 3 Day EMERGENCY | | | | | | | | | | | | <input type="checkbox"/> TRRP Checklist | | | | | | | | | | | | SD STABLER@TRCSOLUTIONS.COM | | | | | |
| TAT Starts Day received by Lab, if received by 5:00 pm | | | | | | | | | | | | | | | | | | | | | | | | FED-EX/U.P.S.-Tracking # | | | | | |
| Relinquished By: [Signature] | | | | | | Date Time: 4/1/18 3:15 PM | | | | | | Received By: [Signature] | | | | | | Date Time: 4/1/18 3:15 PM | | | | | | Referred By: [Signature] 4/13 | | | | | |
| Relinquished By: [Signature] | | | | | | Date Time: 4/1/18 3:15 PM | | | | | | Received By: [Signature] | | | | | | Date Time: 4/1/18 3:15 PM | | | | | | Referred By: [Signature] 10:1 | | | | | |
| On Ice | | | | | | Cooler Temp. | | | | | | Thermo Corr Factor | | | | | | | | | | | | | | | | | |



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 04/03/2018 10:18:00 AM

Work Order #: 581096

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 |
| #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: 04/03/2018

Checklist reviewed by:

Jessica Kramer

Date: 04/04/2018

Analytical Report 585256

for
TRC Solutions, Inc

Project Manager: Joel Lowry

Plains COL Patron 230047R

11-MAY-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-25), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

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

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

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

Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)

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11-MAY-18

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

Reference: XENCO Report No(s): **585256**
Plains COL Patron 230047R
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) 585256. 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. 585256 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks

Project Manager

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 585256



TRC Solutions, Inc, Midland, TX

Plains COL Patron 230047R

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|-----------|--------|----------------|--------------|---------------|
| SP #1 @2' | S | 04-30-18 17:05 | 2 ft | 585256-001 |
| SSWb | S | 04-30-18 11:30 | 1 ft | 585256-002 |



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: Plains COL Patron 230047R

Project ID:
Work Order Number(s): 585256

Report Date: 11-MAY-18
Date Received: 05/08/2018

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results

585256



TRC Solutions, Inc, Midland, TX
Plains COL Patron 230047R

Sample Id: SP #1 @2'

Matrix: Soil

Sample Depth: 2 ft

Lab Sample Id: 585256-001

Date Collected: 04.30.18 17.05

Date Received: 05.08.18 10.30

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3049423

Date Prep: 05.08.18 16.00

Prep seq: 7644346

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 296 | 74.9 | 39.9 | mg/kg | 05.09.18 07:11 | | 5 |
| Diesel Range Organics (DRO) | C10C28DRO | 5920 | 74.9 | 40.6 | mg/kg | 05.09.18 07:11 | | 5 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | 135 | 74.9 | 40.6 | mg/kg | 05.09.18 07:11 | | 5 |
| Total TPH | PHC635 | 6351 | | 39.9 | mg/kg | 05.09.18 07:11 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 99 | 70 - 135 | % | | |
| o-Terphenyl | 94 | 70 - 135 | % | | |

Sample Id: SSWb

Matrix: Soil

Sample Depth: 1 ft

Lab Sample Id: 585256-002

Date Collected: 04.30.18 11.30

Date Received: 05.08.18 10.30

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3049423

Date Prep: 05.08.18 16.00

Prep seq: 7644346

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 134 | 14.9 | 7.97 | mg/kg | 05.09.18 06:01 | | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | 4260 | 14.9 | 8.10 | mg/kg | 05.09.18 06:01 | | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | 38.4 | 14.9 | 8.10 | mg/kg | 05.09.18 06:01 | | 1 |
| Total TPH | PHC635 | 4432.4 | | 7.97 | mg/kg | 05.09.18 06:01 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 107 | 70 - 135 | % | | |
| o-Terphenyl | 124 | 70 - 135 | % | | |



Certificate of Analytical Results

585256



TRC Solutions, Inc, Midland, TX

Plains COL Patron 230047R

Sample Id: 7644346-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7644346-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3049423

Date Prep: 05.08.18 16.00

Prep seq: 7644346

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <8.00 | 15.0 | 8.00 | mg/kg | 05.08.18 20:41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <8.13 | 15.0 | 8.13 | mg/kg | 05.08.18 20:41 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <8.13 | 15.0 | 8.13 | mg/kg | 05.08.18 20:41 | U | 1 |
| Total TPH | PHC635 | <8 | | 8 | mg/kg | 05.08.18 20:41 | U | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 83 | 70 - 135 | % | | |
| o-Terphenyl | 87 | 70 - 135 | % | | |

- 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: Plains COL Patron 230047R

Work Orders : 585256,

Project ID:

Lab Batch #: 3049423

Sample: 7644346-1-BLK / BLK

Batch: 1 Matrix: Solid

| Units: mg/kg Date Analyzed: 05/08/18 20:41 | | SURROGATE RECOVERY STUDY | | | |
|--|--|--------------------------|-----------------|-----------------|-------------------|
| TPH by SW8015 Mod | | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R |
| Analytes | | | | | |
| 1-Chlorooctane | | 82.8 | 100 | 83 | 70-135 |
| o-Terphenyl | | 43.4 | 50.0 | 87 | 70-135 |

Lab Batch #: 3049423

Sample: 7644346-1-BKS / BKS

Batch: 1 Matrix: Solid

| Units: mg/kg Date Analyzed: 05/08/18 21:08 | | SURROGATE RECOVERY STUDY | | | |
|--|--|--------------------------|-----------------|-----------------|-------------------|
| TPH by SW8015 Mod | | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R |
| Analytes | | | | | |
| 1-Chlorooctane | | 100 | 100 | 100 | 70-135 |
| o-Terphenyl | | 47.8 | 50.0 | 96 | 70-135 |

Lab Batch #: 3049423

Sample: 7644346-1-BSD / BSD

Batch: 1 Matrix: Solid

| Units: mg/kg Date Analyzed: 05/08/18 21:35 | | SURROGATE RECOVERY STUDY | | | |
|--|--|--------------------------|-----------------|-----------------|-------------------|
| TPH by SW8015 Mod | | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R |
| Analytes | | | | | |
| 1-Chlorooctane | | 101 | 100 | 101 | 70-135 |
| o-Terphenyl | | 49.2 | 50.0 | 98 | 70-135 |

Lab Batch #: 3049423

Sample: 585093-001 S / MS

Batch: 1 Matrix: Soil

| Units: mg/kg Date Analyzed: 05/08/18 22:28 | | SURROGATE RECOVERY STUDY | | | |
|--|--|--------------------------|-----------------|-----------------|-------------------|
| TPH by SW8015 Mod | | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R |
| Analytes | | | | | |
| 1-Chlorooctane | | 98.1 | 99.8 | 98 | 70-135 |
| o-Terphenyl | | 50.4 | 49.9 | 101 | 70-135 |

Lab Batch #: 3049423

Sample: 585093-001 SD / MSD

Batch: 1 Matrix: Soil

| Units: mg/kg Date Analyzed: 05/08/18 22:55 | | SURROGATE RECOVERY STUDY | | | |
|--|--|--------------------------|-----------------|-----------------|-------------------|
| TPH by SW8015 Mod | | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R |
| Analytes | | | | | |
| 1-Chlorooctane | | 99.3 | 99.9 | 99 | 70-135 |
| o-Terphenyl | | 48.9 | 50.0 | 98 | 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.



BS / BSD Recoveries



Project Name: Plains COL Patron 230047R

Work Order #: 585256

Project ID:

Analyst: ARM

Date Prepared: 05/08/2018

Date Analyzed: 05/08/2018

Lab Batch ID: 3049423

Sample: 7644346-1-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) | <8.00 | 1000 | 924 | 92 | 1000 | 946 | 95 | 2 | 70-135 | 20 |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 1020 | 102 | 1000 | 1050 | 105 | 3 | 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: Plains COL Patron 230047R



Work Order #: 585256
Lab Batch ID: 3049423
Date Analyzed: 05/08/2018
Reporting Units: mg/kg

Project ID:
QC- Sample ID: 585093-001 S Batch #: 1 Matrix: Soil
Date Prepared: 05/08/2018 Analyst: ARM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| TPH by SW8015 Mod | | ANALYTES | | | | | | | | | | Flag | |
|-----------------------------------|--|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|--|
| 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 | | |
| Gasoline Range Hydrocarbons (GRO) | | <7.99 | 998 | 912 | 91 | 999 | 929 | 93 | 2 | 70-135 | 20 | | |
| Diesel Range Organics (DRO) | | <8.11 | 998 | 1020 | 102 | 999 | 1030 | 103 | 1 | 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.

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 # 585256

Client / Reporting Information

Project Information

Company Name / Branch:

Project Name/Number: **Plains 106 Patrox 230047R**

Company Address:

Project Location: **Eddy Co, NM**

10 Dista Drive, Suite 150E, Midland, TX, 79705

Invoice To:

Plains Pipeline c/o Amber Brown

Email: jlomy@trcsolutions.com Phone No: 432-466-4456

Project Contact:

Joel Lowmy

Invoice:

Samplers Name: Joel Lowmy

Collection

Number of preserved bottles

| Sample Depth | Date | Time | Matrix | # of bottles | HCI | NaOH/Zn Acetate | HNO3 | H2SO4 | NaOH | NaHSO4 | MeOH | NONE |
|--------------|---------|-------|--------|--------------|-----|-----------------|------|-------|------|--------|------|------|
| 2' | 4/30/18 | 12:05 | S | 1 | | | | | | | | |
| 1' | 4/30/18 | 11:30 | S | 1 | | | | | | | | |

TPH 8015 M Ext
 Chloride E 300
 BTEX 8021B
 Hold

Field Comments

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

Data Deliverable Information

Notes:

Level II Std QC
 Level IV (Full Data Pkg /raw data)

Level III Std QC+ Forms

jlomy@trcsolutions.com
 zconder@trcsolutions.com
 kblackburn@trcsolutions.com

Level 3 (CLP Forms)

TRRP Level IV

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

Received By:

Date Time:

Received By:

Date Time:

Relinquished By:

Received By:

Date Time:

Received By:

Date Time:

Relinquished By:

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Date Time:

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Received By:



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 05/08/2018 10:30:00 AM

Work Order #: 585256

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 |
| #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: 05/08/2018

Checklist reviewed by:

Kelsey Brooks

Date: 05/09/2018

Analytical Report 586899

**for
TRC Solutions, Inc**

Project Manager: Joel Lowry

COG Patron 23004 TR

30-MAY-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-25), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

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

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

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

Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



30-MAY-18

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

Reference: XENCO Report No(s): **586899**
COG Patron 23004 TR
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) 586899. 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. 586899 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 586899

TRC Solutions, Inc, Midland, TX

COG Patron 23004 TR

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|------------|--------|----------------|--------------|---------------|
| Flb @ 2.5' | S | 05-21-18 14:35 | 2.5 ft | 586899-001 |
| SSWc | S | 05-21-18 14:40 | 1.5 ft | 586899-002 |



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: COG Patron 23004 TR

Project ID:

Work Order Number(s): 586899

Report Date: 30-MAY-18

Date Received: 05/22/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3051227 TPH GRO by EPA 8015 Mod.

Lab Sample ID 586899-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). TPH-GRO 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: 586899-001, -002.

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

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

Samples affected are: 586899-002 S, 586899-002 SD.

Batch: LBA-3051420 DRO-ORO By SW8015B

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

Samples affected are: 586899-001, 586899-002.



Certificate of Analysis Summary 586899

TRC Solutions, Inc, Midland, TX

Project Name: COG Patron 23004 TR

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Tue May-22-18 05:25 pm

Report Date: 30-MAY-18

Project Manager: Kelsey Brooks

| Analysis Requested | Lab Id: | 586899-001 | 586899-002 | | | |
|------------------------------|------------|-----------------|-----------------|------|------|--|
| | Field Id: | Flb @ 2.5' | SSWe | | | |
| | Depth: | 2.5- ft | 1.5- ft | | | |
| | Matrix: | SOIL | SOIL | | | |
| DRO-ORO By SW8015B | Sampled: | May-21-18 14:35 | May-21-18 14:40 | | | |
| | Extracted: | May-24-18 13:00 | May-24-18 13:00 | | | |
| | Analyzed: | May-25-18 14:23 | May-25-18 13:06 | | | |
| Diesel Range Organics (DRO) | Units/RL: | mg/kg | mg/kg | | | |
| | | 5590 | 2180 | | | |
| | | 126 | 25.0 | | | |
| Oil Range Hydrocarbons (ORO) | | 562 | 126 | 279 | 25.0 | |
| TPH GRO by EPA 8015 Mod. | Extracted: | May-23-18 13:30 | May-23-18 13:30 | | | |
| | Analyzed: | May-24-18 00:04 | May-24-18 00:31 | | | |
| | Units/RL: | mg/kg | mg/kg | | | |
| TPH-GRO | | 180 | 18.2 | 26.1 | 7.98 | |

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

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: COG Patron 23004 TR

Work Orders : 586899,

Lab Batch #: 3051227

Sample: 586899-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/24/18 00:04

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|--|---------------------|--------------------|------------------------|-----------------------|-------|
| 4-Bromofluorobenzene | 0.106 | 0.100 | 106 | 76-123 | |
| a,a,a-Trifluorotoluene | 8.97 | 9.11 | 98 | 69-120 | |

Lab Batch #: 3051227

Sample: 586899-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/24/18 00:31

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|--|---------------------|--------------------|------------------------|-----------------------|-------|
| 4-Bromofluorobenzene | 0.0958 | 0.100 | 96 | 76-123 | |
| a,a,a-Trifluorotoluene | 3.26 | 3.99 | 82 | 69-120 | |

Lab Batch #: 3051420

Sample: 586899-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/25/18 13:06

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|------------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| Tricosane | 103 | 10.0 | 1030 | 65-144 | ** |
| n-Triacontane | 61.1 | 10.0 | 611 | 46-152 | ** |

Lab Batch #: 3051420

Sample: 586899-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/25/18 14:23

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|------------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| Tricosane | 206 | 10.1 | 2040 | 65-144 | ** |
| n-Triacontane | 97.0 | 10.1 | 960 | 46-152 | ** |

Lab Batch #: 3051227

Sample: 7645310-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/23/18 22:43

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|--|---------------------|--------------------|------------------------|-----------------------|-------|
| 4-Bromofluorobenzene | 0.0900 | 0.100 | 90 | 76-123 | |
| a,a,a-Trifluorotoluene | 2.32 | 2.00 | 116 | 69-120 | |

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: COG Patron 23004 TR

Work Orders : 586899,

Lab Batch #: 3051420

Sample: 7645393-1-BLK / BLK

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/24/18 19:41

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits %R | Flags |
|--------------------------------|---------------------|--------------------|------------------------|----------------------|-------|
| Tricosane | 9.44 | 10.0 | 94 | 65-144 | |
| n-Triacontane | 7.23 | 10.0 | 72 | 46-152 | |

Lab Batch #: 3051227

Sample: 7645310-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/23/18 20:54

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits %R | Flags |
|--------------------------------------|---------------------|--------------------|------------------------|----------------------|-------|
| 4-Bromofluorobenzene | 0.104 | 0.100 | 104 | 76-123 | |
| a,a,a-Trifluorotoluene | 1.75 | 2.00 | 88 | 69-120 | |

Lab Batch #: 3051420

Sample: 7645393-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/24/18 20:18

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits %R | Flags |
|--------------------------------|---------------------|--------------------|------------------------|----------------------|-------|
| Tricosane | 10.2 | 10.0 | 102 | 65-144 | |
| n-Triacontane | 6.65 | 10.0 | 67 | 46-152 | |

Lab Batch #: 3051227

Sample: 7645310-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/23/18 21:22

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits %R | Flags |
|--------------------------------------|---------------------|--------------------|------------------------|----------------------|-------|
| 4-Bromofluorobenzene | 0.0975 | 0.100 | 98 | 76-123 | |
| a,a,a-Trifluorotoluene | 1.71 | 2.00 | 86 | 69-120 | |

Lab Batch #: 3051420

Sample: 7645393-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 05/24/18 20:59

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits %R | Flags |
|--------------------------------|---------------------|--------------------|------------------------|----------------------|-------|
| Tricosane | 8.88 | 10.0 | 89 | 65-144 | |
| n-Triacontane | 5.67 | 10.0 | 57 | 46-152 | |

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: COG Patron 23004 TR

Work Orders : 586899,

Lab Batch #: 3051227

Sample: 586899-002 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/24/18 00:58

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits %R | Flags |
|--|---------------------|--------------------|------------------------|----------------------|-------|
| 4-Bromofluorobenzene | 0.148 | 0.100 | 148 | 76-123 | ** |
| a,a,a-Trifluorotoluene | 2.88 | 3.64 | 79 | 69-120 | |

Lab Batch #: 3051420

Sample: 586895-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/25/18 11:14

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits %R | Flags |
|------------------------------------|---------------------|--------------------|------------------------|----------------------|-------|
| Tricosane | 13.6 | 10.0 | 136 | 65-144 | |
| n-Triacontane | 10.0 | 10.0 | 100 | 46-152 | |

Lab Batch #: 3051227

Sample: 586899-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/24/18 01:25

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits %R | Flags |
|--|---------------------|--------------------|------------------------|----------------------|-------|
| 4-Bromofluorobenzene | 0.138 | 0.100 | 138 | 76-123 | ** |
| a,a,a-Trifluorotoluene | 2.74 | 3.64 | 75 | 69-120 | |

Lab Batch #: 3051420

Sample: 586895-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 05/25/18 11:50

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits %R | Flags |
|------------------------------------|---------------------|--------------------|------------------------|----------------------|-------|
| Tricosane | 12.7 | 10.1 | 126 | 65-144 | |
| n-Triacontane | 9.29 | 10.1 | 92 | 46-152 | |

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Project Name: COG Patron 23004 TR

Work Order #: 586899

Analyst: PGM

Lab Batch ID: 3051420

Units: mg/kg

Date Prepared: 05/24/2018

Sample: 7645393-1-BKS

Batch #: 1

Project ID:

Date Analyzed: 05/24/2018

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| DRO-ORO By SW8015B | BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY | | | | | | | | | | |
|-----------------------------|---|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| Diesel Range Organics (DRO) | <25.0 | 100 | 88.7 | 89 | 100 | 88.0 | 88 | 1 | 63-139 | 20 | |

Analyst: MIT

Lab Batch ID: 3051227

Units: mg/kg

Date Prepared: 05/23/2018

Sample: 7645310-1-BKS

Batch #: 1

Date Analyzed: 05/23/2018

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. | BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY | | | | | | | | | | |
|--------------------------|---|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| TPH-GRO | <4.00 | 20.0 | 21.7 | 109 | 20.0 | 21.4 | 107 | 1 | 35-129 | 20 | |

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



Form 3 - MS / MSD Recoveries

Project Name: COG Patron 23004 TR

Work Order #: 586899

Project ID:

Lab Batch ID: 3051420

QC- Sample ID: 586895-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 05/25/2018

Date Prepared: 05/24/2018

Analyst: PGM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| DRO-ORO By SW8015B | | | | | | | | | | | |
|-----------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|--|
| Analytes | | | | | | | | | | | |
| Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag | |
| Diesel Range Organics (DRO) | <25.1 | 100 | 104 | 104 | 101 | 100 | 99 | 4 | 63-139 | 20 | |

Lab Batch ID: 3051227

QC- Sample ID: 586899-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 05/24/2018

Date Prepared: 05/23/2018

Analyst: MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. | | | | | | | | | | | |
|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|---|
| Analytes | | | | | | | | | | | |
| Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag | |
| TPH-GRO | 26.1 | 36.4 | 33.8 | 21 | 36.4 | 33.9 | 21 | 0 | 35-129 | 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.



Setting the Standard since 1990

Stafford, Texas (281-240-4200)

Dallas Texas (214-902-0300)

586899

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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586899

| | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|
| Client / Reporting Information | | | | Project Information | | | | Analytical Information | | | | Matrix Codes | | | |
| Company Name / Branch: | | | | Project Name/Number: | | | | | | | | | | | |
| TRC Environmental | | | | COG Patron 23004 TR | | | | | | | | | | | |
| Company Address: | | | | Project Location: | | | | | | | | | | | |
| 2057 Commerce Drive | | | | Eddy Co. NM | | | | | | | | | | | |
| Midland, TX 79703 | | | | | | | | | | | | | | | |
| Email: | | | | Phone No: | | | | | | | | | | | |
| lowry@trcsolutions.com | | | | | | | | | | | | | | | |
| Project Contact: | | | | Invoice To: | | | | | | | | | | | |
| Joel Lowry | | | | Plains Pipeline C/O Camille Bryant | | | | | | | | | | | |
| Sampler's Name Joel Lowry | | | | Invoice: SRS 2018-050 | | | | | | | | | | | |
| No. | | | | Field ID / Point of Collection | | | | Collection | | | | Number of preserved bottles | | | |
| | | | | Sample Depth | | | | Date | | | | Time | | | |
| | | | | Matrix | | | | # of bottles | | | | | | | |
| | | | | HCl | | | | NaOH/Zn | | | | HNO3 | | | |
| | | | | H2SO4 | | | | NaOH | | | | NaHSO4 | | | |
| | | | | MECH | | | | NONE | | | | | | | |
| 1 | | | | FLb @ 2.5' | | | | 5/21/2018 | | | | 2:35 S | | | |
| 2 | | | | SSWc | | | | 5/21/2018 | | | | 2:40 S | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| Turnaround Time (Business days) | | | | | | | | Data Deliverable Information | | | | Notes: | | | |
| <input type="checkbox"/> Same Day TAT | | | | <input type="checkbox"/> 5 Day TAT | | | | <input type="checkbox"/> Level II Std QC | | | | <input type="checkbox"/> Level IV (Full Data Pkg /raw data) | | | |
| <input type="checkbox"/> Next Day EMERGENCY | | | | <input type="checkbox"/> 7 Day TAT | | | | <input type="checkbox"/> Level III Std QC+ Forms | | | | <input type="checkbox"/> TRRP Level IV | | | |
| <input type="checkbox"/> 2 Day EMERGENCY | | | | <input checked="" type="checkbox"/> Contract TAT | | | | <input type="checkbox"/> Level 3 (CLP Forms) | | | | <input type="checkbox"/> UST / RG -411 | | | |
| <input type="checkbox"/> 3 Day EMERGENCY | | | | | | | | <input type="checkbox"/> TRRP Checklist | | | | | | | |
| TAT Starts Day received by Lab, if received by 5:00 pm | | | | | | | | | | | | FED-EX / UPS: Tracking # | | | |
| Relinquished by Sampler: | | | | Date Time: | | | | Received By: | | | | Date Time: | | | |
| 1 | | | | 5/22 10:00 | | | | 2 | | | | 2 | | | |
| Relinquished by: | | | | Date Time: | | | | Received By: | | | | Date Time: | | | |
| 3 | | | | | | | | 3 | | | | 4 | | | |
| Relinquished by: | | | | Date Time: | | | | Received By: | | | | Date Time: | | | |
| 5 | | | | 9/22/18 5:25 | | | | 5 | | | | 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. | | | | | | | | | | | | | | | |
| Custody Seal # | | | | Preserved where applicable | | | | On Ice | | | | Cooler Temp. | | | |
| | | | | | | | | | | | | 3.9 | | | |
| | | | | | | | | | | | | I-18-3 | | | |



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 05/22/2018 05:25:00 PM

Work Order #: 586899

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR-3

Sample Receipt Checklist

Comments

| | |
|---|-----|
| #1 *Temperature of cooler(s)? | 3.9 |
| #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:

Brenda Ward
Brenda Ward

Date: 05/23/2018

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 05/24/2018

Analytical Report 590232

**for
TRC Solutions, Inc**

Project Manager: Joel Lowry

COG Patron 23004 TR

28-JUN-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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)



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28-JUN-18

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

Reference: XENCO Report No(s): **590232**
COG Patron 23004 TR
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) 590232. 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. 590232 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 590232

TRC Solutions, Inc, Midland, TX

COG Patron 23004 TR

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|-----------|--------|----------------|--------------|---------------|
| FL @ 4' | S | 06-20-18 11:00 | | 590232-001 |



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: COG Patron 23004 TR

Project ID:

Work Order Number(s): 590232

Report Date: 28-JUN-18

Date Received: 06/22/2018

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3054675 DRO-ORO By SW8015B

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

Samples affected are: 590232-001.

Batch: LBA-3054678 TPH GRO by EPA 8015 Mod.

Surrogate 4-Bromofluorobenzene recovered below QC limits Data confirmed by re-analysis. Samples affected are: 7657348-1-BLK, 590232-001.

TPH-GRO Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.

Samples in the analytical batch are: 590232-001

Lab Sample ID 590232-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). TPH-GRO 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: 590232-001.

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



Certificate of Analytical Results

590232



TRC Solutions, Inc, Midland, TX
COG Patron 23004 TR

Sample Id: FL @ 4'

Matrix: Soil

Sample Depth:

Lab Sample Id: 590232-001

Date Collected: 06.20.18 11.00

Date Received: 06.22.18 15.00

Analytical Method: DRO-ORO By SW8015B

Prep Method: 8015

Analyst: PGM

% Moist:

Tech: PGM

Seq Number: 3054675

Date Prep: 06.26.18 13.30

Prep seq: 7657369

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|------------------------------|------------|--------|-----|------|-------|----------------|------|------------|
| Diesel Range Organics (DRO) | C10C28DRO | 4810 | 249 | 74.5 | mg/kg | 06.27.18 05:29 | | 10 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | 611 | 249 | 74.5 | mg/kg | 06.27.18 05:29 | | 10 |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|---------------|------------|----------|-------|---------------|------|
| Tricosane | 1697 | 65 - 144 | % | | ** |
| n-Triacontane | 1024 | 46 - 152 | % | | ** |

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3054678

Date Prep: 06.26.18 14.00

Prep seq: 7657348

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|--------|------|-----|-------|----------------|------|------------|
| TPH-GRO | 8006-61-9 | 2560 | 1990 | 135 | mg/kg | 06.26.18 19:04 | XF | 9940 |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|------------------------|------------|----------|-------|---------------|------|
| 4-Bromofluorobenzene | 74 | 76 - 123 | % | | *** |
| a,a,a-Trifluorotoluene | 88 | 69 - 120 | % | | |



Certificate of Analytical Results

590232



TRC Solutions, Inc, Midland, TX
COG Patron 23004 TR

Sample Id: 7657348-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7657348-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH GRO by EPA 8015 Mod.

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3054678

Date Prep: 06.26.18 14.00

Prep seq: 7657348

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|--------|------|-------|-------|----------------|------|------------|
| TPH-GRO | 8006-61-9 | <0.271 | 4.00 | 0.271 | mg/kg | 06.26.18 18:36 | U | 20 |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|------------------------|------------|----------|-------|---------------|------|
| 4-Bromofluorobenzene | 72 | 76 - 123 | % | | ** |
| a,a,a-Trifluorotoluene | 101 | 69 - 120 | % | | |

Sample Id: 7657369-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7657369-1-BLK

Date Collected:

Date Received:

Analytical Method: DRO-ORO By SW8015B

Prep Method: 8015

Analyst: PGM

% Moist:

Tech: PGM

Seq Number: 3054675

Date Prep: 06.26.18 13.30

Prep seq: 7657369

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Diesel Range Organics (DRO) | C10C28DRO | <7.48 | 25.0 | 7.48 | mg/kg | 06.26.18 17:32 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <7.48 | 25.0 | 7.48 | mg/kg | 06.26.18 17:32 | U | 1 |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|---------------|------------|----------|-------|---------------|------|
| Tricosane | 85 | 65 - 144 | % | | |
| n-Triacontane | 79 | 46 - 152 | % | | |

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: COG Patron 23004 TR

Work Orders : 590232,

Project ID:

Lab Batch #: 3054675

Sample: 7657369-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/18 17:32

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|--------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| Tricosane | 8.49 | 10.0 | 85 | 65-144 | |
| n-Triacontane | 7.93 | 10.0 | 79 | 46-152 | |

Lab Batch #: 3054675

Sample: 7657369-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/18 18:11

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|--------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| Tricosane | 10.8 | 10.0 | 108 | 65-144 | |
| n-Triacontane | 7.89 | 10.0 | 79 | 46-152 | |

Lab Batch #: 3054675

Sample: 7657369-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/18 18:51

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|--------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| Tricosane | 10.7 | 10.0 | 107 | 65-144 | |
| n-Triacontane | 8.47 | 10.0 | 85 | 46-152 | |

Lab Batch #: 3054675

Sample: 590084-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/18 20:46

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|--------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| Tricosane | 11.2 | 10.0 | 112 | 65-144 | |
| n-Triacontane | 10.0 | 10.0 | 100 | 46-152 | |

Lab Batch #: 3054675

Sample: 590084-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/18 21:22

SURROGATE RECOVERY STUDY

| DRO-ORO By SW8015B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|--------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| Tricosane | 11.0 | 10.0 | 110 | 65-144 | |
| n-Triacontane | 9.17 | 10.0 | 92 | 46-152 | |

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Form 2 - Surrogate Recoveries

Project Name: COG Patron 23004 TR

Work Orders : 590232,

Project ID:

Lab Batch #: 3054678

Sample: 7657348-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/18 16:45

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|--|---------------------|--------------------|-----------------------|----------------------|-------|
| 4-Bromofluorobenzene | 1.07 | 0.100 | 1070 | 76-123 | ** |
| a,a,a-Trifluorotoluene | 1.81 | 2.00 | 91 | 69-120 | |

Lab Batch #: 3054678

Sample: 7657348-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/18 17:13

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|--|---------------------|--------------------|-----------------------|----------------------|-------|
| 4-Bromofluorobenzene | 0.107 | 0.100 | 107 | 76-123 | |
| a,a,a-Trifluorotoluene | 1.84 | 2.00 | 92 | 69-120 | |

Lab Batch #: 3054678

Sample: 7657348-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/18 18:36

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|--|---------------------|--------------------|-----------------------|----------------------|-------|
| 4-Bromofluorobenzene | 0.0721 | 0.100 | 72 | 76-123 | ** |
| a,a,a-Trifluorotoluene | 2.01 | 2.00 | 101 | 69-120 | |

Lab Batch #: 3054678

Sample: 590232-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/18 19:31

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|--|---------------------|--------------------|-----------------------|----------------------|-------|
| 4-Bromofluorobenzene | 0.0815 | 0.100 | 82 | 76-123 | |
| a,a,a-Trifluorotoluene | 892 | 963 | 93 | 69-120 | |

Lab Batch #: 3054678

Sample: 590232-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/18 19:58

SURROGATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|--|---------------------|--------------------|-----------------------|----------------------|-------|
| 4-Bromofluorobenzene | 0.112 | 0.100 | 112 | 76-123 | |
| a,a,a-Trifluorotoluene | 974 | 975 | 100 | 69-120 | |

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Project Name: COG Patron 23004 TR**Work Order #:** 590232**Analyst:** PGM**Lab Batch ID:** 3054675**Units:** mg/kg**Date Prepared:** 06/26/2018**Sample:** 7657369-1-BKS**Batch #:** 1**Project ID:****Date Analyzed:** 06/26/2018**Matrix:** Solid**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| DRO-ORO By SW8015B | | | | | | | | | | | |
|--------------------|-----------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| | Diesel Range Organics (DRO) | <7.48 | 100 | 105 | 105 | 100 | 98.1 | 98 | 7 | 63-139 | 20 |

Analyst: MIT**Lab Batch ID:** 3054678**Units:** mg/kg**Date Prepared:** 06/26/2018**Sample:** 7657348-1-BKS**Batch #:** 1**Date Analyzed:** 06/26/2018**Matrix:** Solid**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| TPH GRO by EPA 8015 Mod. | | | | | | | | | | | |
|--------------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| | TPH-GRO | <0.271 | 20.0 | 22.5 | 113 | 20.0 | 22.3 | 112 | 1 | 35-129 | 20 |

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



Form 3 - MS / MSD Recoveries

Project Name: COG Patron 23004 TR

Work Order #: 590232

Lab Batch ID: 3054675

Date Analyzed: 06/26/2018

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 590084-002 S

Date Prepared: 06/26/2018

Batch #: 1 Matrix: Soil
Analyst: PGM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| DRO-ORO By SW8015B | | | | | | | | | | | |
|-----------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| Analytes | | | | | | | | | | | |
| Diesel Range Organics (DRO) | 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 |
| | <7.50 | 100 | 88.1 | 88 | 100 | 91.9 | 92 | 4 | 63-139 | 20 | |

Lab Batch ID: 3054678

Date Analyzed: 06/26/2018

Reporting Units: mg/kg

QC- Sample ID: 590232-001 S

Date Prepared: 06/26/2018

Batch #: 1 Matrix: Soil
Analyst: MIT

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| TPH GRO by EPA 8015 Mod. | | | | | | | | | | | |
|--------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| Analytes | | | | | | | | | | | |
| TPH-GRO | 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 |
| | 2560 | 9630 | 3570 | 10 | 9750 | 2170 | 0 | 49 | 35-129 | 20 | XF |

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

Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 06/22/2018 03:00:00 PM

Work Order #: 590232

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)? | 4.7 |
| #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: 06/24/2018

Checklist reviewed by:


Kelsey Brooks

Date: 06/25/2018

Analytical Report 593653

for
TRC Solutions, Inc

Project Manager: Joel Lowry

COG Patron

30-JUL-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)



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30-JUL-18

Project Manager: **Joel Lowry**

TRC Solutions, Inc

2057 Commerce

Midland, TX 79703

Reference: XENCO Report No(s): **593653**

COG Patron

Project Address: Eddy County, NM

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 593653. 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. 593653 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks

Project Manager

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 593653



TRC Solutions, Inc, Midland, TX

COG Patron

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|-----------|--------|----------------|--------------|---------------|
| FL @ 5' | S | 07-24-18 10:00 | 5 ft | 593653-001 |
| FL @ 6' | S | 07-24-18 10:30 | 6 ft | 593653-002 |
| FL @ 7' | S | 07-24-18 11:00 | 7 ft | 593653-003 |



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: COG Patron

Project ID:

Work Order Number(s): 593653

Report Date: 30-JUL-18

Date Received: 07/26/2018

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results

593653



TRC Solutions, Inc, Midland, TX
COG Patron

Sample Id: FL @ 5'

Matrix: Soil

Sample Depth: 5 ft

Lab Sample Id: 593653-001

Date Collected: 07.24.18 10.00

Date Received: 07.26.18 11.20

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3057935

Date Prep: 07.26.18 17.00

Prep seq: 7659211

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|---------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 2790 | 75.0 | 40.0 | mg/kg | 07.27.18 08:18 | | 5 |
| Diesel Range Organics (DRO) | C10C28DRO | 8730 | 75.0 | 40.6 | mg/kg | 07.27.18 08:18 | | 5 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | 61.7 | 75.0 | 40.6 | mg/kg | 07.27.18 08:18 | J | 5 |
| Total TPH | PHC635 | 11581.7 | | 40 | mg/kg | 07.27.18 08:18 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 125 | 70 - 135 | % | | |
| o-Terphenyl | 99 | 70 - 135 | % | | |

Sample Id: FL @ 6'

Matrix: Soil

Sample Depth: 6 ft

Lab Sample Id: 593653-002

Date Collected: 07.24.18 10.30

Date Received: 07.26.18 11.20

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3057935

Date Prep: 07.26.18 17.00

Prep seq: 7659211

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 1430 | 74.7 | 39.9 | mg/kg | 07.27.18 08:38 | | 5 |
| Diesel Range Organics (DRO) | C10C28DRO | 7720 | 74.7 | 40.5 | mg/kg | 07.27.18 08:38 | | 5 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | 49.3 | 74.7 | 40.5 | mg/kg | 07.27.18 08:38 | J | 5 |
| Total TPH | PHC635 | 9199.3 | | 39.9 | mg/kg | 07.27.18 08:38 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 117 | 70 - 135 | % | | |
| o-Terphenyl | 91 | 70 - 135 | % | | |



Certificate of Analytical Results

593653



TRC Solutions, Inc, Midland, TX
COG Patron

Sample Id: FL @ 7'

Matrix: Soil

Sample Depth: 7 ft

Lab Sample Id: 593653-003

Date Collected: 07.24.18 11.00

Date Received: 07.26.18 11.20

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3057935

Date Prep: 07.26.18 17.00

Prep seq: 7659211

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 684 | 75.0 | 40.0 | mg/kg | 07.27.18 08:58 | | 5 |
| Diesel Range Organics (DRO) | C10C28DRO | 5870 | 75.0 | 40.6 | mg/kg | 07.27.18 08:58 | | 5 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | 41.8 | 75.0 | 40.6 | mg/kg | 07.27.18 08:58 | J | 5 |
| Total TPH | PHC635 | 6595.8 | | 40 | mg/kg | 07.27.18 08:58 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 127 | 70 - 135 | % | | |
| o-Terphenyl | 116 | 70 - 135 | % | | |



Certificate of Analytical Results

593653



TRC Solutions, Inc, Midland, TX
COG Patron

Sample Id: 7659211-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7659211-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH by SW8015 Mod

Prep Method: 1005

Analyst: ARM

% Moist:

Tech: ARM

Seq Number: 3057935

Date Prep: 07.26.18 17.00

Prep seq: 7659211

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------------------------------|------------|--------|------|------|-------|----------------|------|------------|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <8.00 | 15.0 | 8.00 | mg/kg | 07.26.18 20:47 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <8.13 | 15.0 | 8.13 | mg/kg | 07.26.18 20:47 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <8.13 | 15.0 | 8.13 | mg/kg | 07.26.18 20:47 | U | 1 |
| Total TPH | PHC635 | <8 | | 8 | mg/kg | 07.26.18 20:47 | U | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|----------------|------------|----------|-------|---------------|------|
| 1-Chlorooctane | 93 | 70 - 135 | % | | |
| o-Terphenyl | 97 | 70 - 135 | % | | |

- 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: COG Patron

Work Orders : 593653,

Project ID:

Lab Batch #: 3057935

Sample: 7659211-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 07/26/18 20:47

SURROGATE RECOVERY STUDY

| TPH by SW8015 Mod Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|-------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1-Chlorooctane | 92.7 | 100 | 93 | 70-135 | |
| o-Terphenyl | 48.6 | 50.0 | 97 | 70-135 | |

Lab Batch #: 3057935

Sample: 7659211-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 07/26/18 21:07

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 | 49.9 | 50.0 | 100 | 70-135 | |

Lab Batch #: 3057935

Sample: 7659211-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 07/26/18 21:27

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 | 52.6 | 50.0 | 105 | 70-135 | |

Lab Batch #: 3057935

Sample: 593648-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 07/26/18 22:06

SURROGATE RECOVERY STUDY

| TPH by SW8015 Mod Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|-------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1-Chlorooctane | 124 | 99.9 | 124 | 70-135 | |
| o-Terphenyl | 51.6 | 50.0 | 103 | 70-135 | |

Lab Batch #: 3057935

Sample: 593648-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 07/26/18 22:26

SURROGATE RECOVERY STUDY

| TPH by SW8015 Mod Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|-------------------------------|---------------------|--------------------|------------------------|-----------------------|-------|
| 1-Chlorooctane | 119 | 99.8 | 119 | 70-135 | |
| o-Terphenyl | 49.8 | 49.9 | 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.



BS / BSD Recoveries



Project Name: COG Patron

Work Order #: 593653

Analyst: ARM

Lab Batch ID: 3057935

Units: mg/kg

Date Prepared: 07/26/2018

Sample: 7659211-1-BKS

Batch #: 1

Project ID:

Date Analyzed: 07/26/2018

Matrix: Solid

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) | <8.00 | 1000 | 950 | 95 | 1000 | 1010 | 101 | 6 | 70-135 | 20 |
| Diesel Range Organics (DRO) | <8.13 | 1000 | 981 | 98 | 1000 | 1050 | 105 | 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: COG Patron



Work Order # : 593653

Lab Batch ID: 3057935

Date Analyzed: 07/26/2018

Reporting Units: mg/kg

QC- Sample ID: 593648-001 S

Date Prepared: 07/26/2018

Project ID:

Batch #: 1

Analyst: ARM

Matrix: Soil

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) | 12.9 | 999 | 962 | 95 | 998 | 952 | 94 | 1 | 70-135 | 20 | | |
| Diesel Range Organics (DRO) | 9.71 | 999 | 1030 | 102 | 998 | 1020 | 101 | 1 | 70-135 | 20 | | |

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

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.

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

RPD = 200*|(C-F)/(C+F)|

☐ 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
☐ 12800 West I-20 East, Odessa, TX 79765 432-563-1800

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Serial #: 330936 Page of

| | | | |
|--|----------------|---|-----------------|
| Company-City JRC SOLUTIONS | | Phone 432-466-4450 | |
| Project Name-Location COX PARK EMBROIDERY | | Project ID 593653 | |
| Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other | | Proj. Manager (PM) JOEL LOUSRY | |
| E-mail Results to ETM and ALG@JRC-SOLUTIONS.COM | | E-mail Results to ALG@JRC-SOLUTIONS.COM | |
| Invoice to <input type="checkbox"/> Accounting <input type="checkbox"/> Inc. Invoice with Final Report <input type="checkbox"/> Invoice must have a P.O. | | Bill to: PLAINS NATURAL GAS | |
| Quote/Pricing: P.O. No: <input type="checkbox"/> Call for P.O. | | Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP | |
| QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER: | | QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER: | |
| Special DLS (GW DW QAPP MDLS RLS See Lab PM Included Call PM) | | Special DLS (GW DW QAPP MDLS RLS See Lab PM Included Call PM) | |
| Sampler Name BECKY GRIFFIN | | Signature BECKY GRIFFIN | |
| Sample ID | Sampling Date | Time | Depth ft' in" m |
| 1 FL05 | 7-24-18 | 10:00 | 5'5" |
| 2 FL06 | 7-24-18 | 10:30 | 6'5" |
| 3 FL07 | 7-24-18 | 11:00 | 7'5" |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| Relinquished by (Initials and Sign) [Signature] | | Date & Time 7-25-18 2:20 | |
| Relinquished to (Initials and Sign) [Signature] | | Date & Time 7/26/18 11:20 | |
| 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: 6 | |
| Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40m VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other | | Cooler Temp: -0.2°C | |
| Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L) | | Other: TPH BA15 MEXT | |
| Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates. subcontracts and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract. | | TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. 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 | |
| Remarks | | Addn: Date Rcv. by: From: | |

Committed to Excellence in Service and Quality

www.xenco.com



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 07/26/2018 11:20:00 AM

Work Order #: 593653

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 |
| #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: 07/26/2018

Checklist reviewed by:

Jessica Kramer

Date: 07/27/2018

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
Documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Plains Pipeline, LP
505 Big Spring St, Suite 600
Midland, Texas 79701

2. Originating Site:

Plains Pipeline, LP
COG Patron 23 #004 TR

3. Location of Material (Street Address, City, State or ULSTR):

UL "A", Sec. 23, T25S, R29E

4. Source and Description of Waste:

Crude Oil Affected Soil

Estimated Volume **80** yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, **Amber Groves**, representative or authorized agent for **Plains Pipeline, LP** do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only: Waste Acceptance Frequency* ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, **Amber Groves**, representative for **Plains Pipeline, LP** do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter:

Manual Mata Trucking, LLC

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Lea Land, Inc. – NMOCD Permit #NM-01-035

Address of Facility: Mile Marker 64, Highway 62, Carlsbad, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ **APPROVED**

☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME:

TITLE:

DATE:

SIGNATURE:

TELEPHONE NO.:

Surface Waste Management Facility Authorized Agent

Analytical Report 587380

for
TRC Solutions, Inc

Project Manager: Joel Lowry

COG Patron 2300 4JR

06-JUN-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 (T104704400-18-14)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)

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06-JUN-18

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

Reference: XENCO Report No(s): **587380**
COG Patron 2300 4JR
Project Address: 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) 587380. 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. 587380 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks

Project Manager

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 587380



TRC Solutions, Inc, Midland, TX

COG Patron 2300 4JR

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|------------------|---------------|-----------------------|---------------------|----------------------|
| WC | S | 05-24-18 09:00 | | 587380-001 |



CASE NARRATIVE

Client Name: TRC Solutions, Inc

Project Name: COG Patron 2300 4JR

Project ID:

Work Order Number(s): 587380

Report Date: 06-JUN-18

Date Received: 05/26/2018

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results

587380



TRC Solutions, Inc, Midland, TX
COG Patron 2300 4JR

Sample Id: WC Matrix: Soil Sample Depth:
Lab Sample Id: 587380-001 Date Collected: 05.24.18 09.00 Date Received: 05.26.18 10.00
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Analyst: SCM % Moist: Tech: SCM
Seq Number: 3052090 Date Prep: 05.31.18 12.00
Prep seq: 7655801

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|--------|------|-------|-------|----------------|------|------------|
| Chloride | 16887-00-6 | 103 | 4.97 | 0.853 | mg/kg | 06.01.18 10:32 | | 1 |

Analytical Method: TCLP Metals by SW846 6010B Prep Method: 3010A
Analyst: DEP % Moist: Tech: DEP
Seq Number: 3052306 Date Prep: 06.04.18 11.20
Subcontractor: SUB: TX104704215-18-26 Prep seq: 7655946

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|-----------|--------|----------|-------|----------------|------|------------|
| Arsenic | 7440-38-2 | <0.0168 | 0.0500 | 0.0168 | mg/L | 06.04.18 21:00 | U | 5 |
| Barium | 7440-39-3 | 1.02 | 0.0500 | 0.000700 | mg/L | 06.04.18 21:00 | | 5 |
| Cadmium | 7440-43-9 | <0.000656 | 0.0250 | 0.000656 | mg/L | 06.04.18 21:00 | U | 5 |
| Chromium | 7440-47-3 | <0.00681 | 0.0500 | 0.00681 | mg/L | 06.04.18 21:00 | U | 5 |
| Lead | 7439-92-1 | <0.00916 | 0.0500 | 0.00916 | mg/L | 06.04.18 21:00 | U | 5 |
| Selenium | 7782-49-2 | <0.0278 | 0.100 | 0.0278 | mg/L | 06.04.18 21:00 | U | 5 |
| Silver | 7440-22-4 | <0.00802 | 0.100 | 0.00802 | mg/L | 06.04.18 21:00 | U | 5 |

Analytical Method: Reactive Cyanide by SW 846-Section7.3.3 Prep Method: SW9012P
Analyst: KCS % Moist: Tech: KCS
Seq Number: 3051907 Date Prep: 05.31.18 10.00
Subcontractor: SUB: TX104704215-18-26 Prep seq: 7655756

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|---------|--------|--------|-------|----------------|------|------------|
| Cyanide + | 57-12-5 | <0.0117 | 0.0250 | 0.0117 | mg/kg | 05.31.18 14:30 | U | 1 |

Analytical Method: TCLP Mercury by SW-846 1311/7470A Prep Method: SW7470P
Analyst: MLI % Moist: Tech: MLI
Seq Number: 3051896 Date Prep: 05.31.18 09.15
Subcontractor: SUB: TX104704215-18-26 Prep seq: 7655721

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|-----------|----------|----------|-------|----------------|------|------------|
| Mercury | 7439-97-6 | <0.000100 | 0.000200 | 0.000100 | mg/L | 05.31.18 13:11 | U | 1 |



Certificate of Analytical Results

587380



TRC Solutions, Inc, Midland, TX

COG Patron 2300 4JR

Sample Id: WC Matrix: Soil Sample Depth:
Lab Sample Id: 587380-001 Date Collected: 05.24.18 09.00 Date Received: 05.26.18 10.00
Analytical Method: Soil pH Prep Method:
Analyst: KBU % Moist: Tech: KBU
Seq Number: 3051881 Date Prep:
Subcontractor: SUB: TX104704215-18-26 Prep seq:

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|--------|-----|-----|-------|----------------|------|------------|
| pH | 12408-02-5 | 7.99 | | | SU | 05.31.18 11:30 | | |

Analytical Method: Flash Point (Closed Cup Tester) Prep Method:
Analyst: TRS % Moist: Tech: TRS
Seq Number: 3052471 Date Prep:
Subcontractor: SUB: TX104704215-18-26 Prep seq:

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-------------|------------|--------|-----|-----|-------|----------------|------|------------|
| Flash Point | | >180 | | | Deg F | 06.06.18 09:15 | U | 1 |

Analytical Method: Reactive Sulfide by SW9034 Prep Method:
Analyst: YAV % Moist: Tech: YAV
Seq Number: 3051947 Date Prep:
Subcontractor: SUB: TX104704215-18-26 Prep seq:

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|------------------|------------|--------|------|-------|-------|----------------|------|------------|
| Reactive Sulfide | 18496-25-8 | <0.500 | 25.0 | 0.500 | mg/kg | 05.31.18 13:10 | U | 1 |

Analytical Method: TCLP BTEX by SW 8260B Prep Method: 5030B
Analyst: MCH % Moist: Tech: MCH
Seq Number: 3052441 Date Prep: 06.05.18 11.00
Subcontractor: SUB: TX104704215-18-26 Prep seq: 7656104

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|---------|---------|---------|-------|----------------|------|------------|
| Benzene | 71-43-2 | 0.00400 | 0.00500 | 0.00250 | mg/L | 06.05.18 21:41 | J | 5 |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|-----------------------|------------|----------|-------|---------------|------|
| Dibromofluoromethane | 105 | 75 - 131 | % | | |
| 1,2-Dichloroethane-D4 | 106 | 63 - 144 | % | | |
| Toluene-D8 | 88 | 80 - 117 | % | | |



Certificate of Analytical Results

587380



TRC Solutions, Inc, Midland, TX

COG Patron 2300 4JR

Sample Id: 3051947-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 3051947-1-BLK

Date Collected:

Date Received:

Analytical Method: Reactive Sulfide by SW9034

Prep Method:

Analyst: YAV

% Moist:

Tech: YAV

Seq Number: 3051947

Date Prep:

Subcontractor: SUB: TX104704215-18-26

Prep seq:

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|------------------|------------|--------|------|-------|-------|----------------|------|------------|
| Reactive Sulfide | 18496-25-8 | <0.500 | 25.0 | 0.500 | mg/kg | 05.31.18 13:10 | U | 1 |

Sample Id: 7655721-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 7655721-1-BLK

Date Collected:

Date Received:

Analytical Method: TCLP Mercury by SW-846 1311/7470A

Prep Method: SW7470P

Analyst: MLI

% Moist:

Tech: MLI

Seq Number: 3051896

Date Prep: 05.31.18 09.15

Subcontractor: SUB: TX104704215-18-26

Prep seq: 7655721

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|-----------|----------|----------|-------|----------------|------|------------|
| Mercury | 7439-97-6 | <0.000100 | 0.000200 | 0.000100 | mg/L | 05.31.18 12:02 | U | 1 |

Sample Id: 7655756-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7655756-1-BLK

Date Collected:

Date Received:

Analytical Method: Reactive Cyanide by SW 846-Section7.3.3

Prep Method: SW9012P

Analyst: KCS

% Moist:

Tech: KCS

Seq Number: 3051907

Date Prep: 05.31.18 10.00

Subcontractor: SUB: TX104704215-18-26

Prep seq: 7655756

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|---------|--------|--------|-------|----------------|------|------------|
| Cyanide + | 57-12-5 | <0.0117 | 0.0250 | 0.0117 | mg/kg | 05.31.18 14:12 | U | 1 |

Sample Id: 7655801-1-BLK

Matrix: Solid

Sample Depth:

Lab Sample Id: 7655801-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: SCM

% Moist:

Tech: SCM

Seq Number: 3052090

Date Prep: 05.31.18 12.00

Prep seq: 7655801

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|--------|------|-------|-------|----------------|------|------------|
| Chloride | 16887-00-6 | <0.858 | 5.00 | 0.858 | mg/kg | 06.01.18 09:27 | U | 1 |



Certificate of Analytical Results

587380



TRC Solutions, Inc, Midland, TX
COG Patron 2300 4JR

Sample Id: 7655946-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 7655946-1-BLK

Date Collected:

Date Received:

Analytical Method: TCLP Metals by SW846 6010B

Prep Method: 3010A

Analyst: DEP

% Moist:

Tech: DEP

Seq Number: 3052306

Date Prep: 06.04.18 11.20

Subcontractor: SUB: TX104704215-18-26

Prep seq: 7655946

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|-----------|---------|----------|-------|----------------|------|------------|
| Arsenic | 7440-38-2 | <0.00336 | 0.0100 | 0.00336 | mg/L | 06.04.18 19:03 | U | 1 |
| Barium | 7440-39-3 | <0.000140 | 0.0100 | 0.000140 | mg/L | 06.04.18 19:03 | U | 1 |
| Cadmium | 7440-43-9 | <0.000131 | 0.00500 | 0.000131 | mg/L | 06.04.18 19:03 | U | 1 |
| Chromium | 7440-47-3 | <0.00136 | 0.0100 | 0.00136 | mg/L | 06.04.18 19:03 | U | 1 |
| Lead | 7439-92-1 | <0.00183 | 0.0100 | 0.00183 | mg/L | 06.04.18 19:03 | U | 1 |
| Selenium | 7782-49-2 | <0.00555 | 0.0200 | 0.00555 | mg/L | 06.04.18 19:03 | U | 1 |
| Silver | 7440-22-4 | <0.00160 | 0.0200 | 0.00160 | mg/L | 06.04.18 19:03 | U | 1 |
| Sodium | 7440-23-5 | <0.0570 | 0.500 | 0.0570 | mg/L | 06.05.18 14:19 | U | 1 |

Sample Id: 7656104-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 7656104-1-BLK

Date Collected:

Date Received:

Analytical Method: TCLP BTEX by SW 8260B

Prep Method: 5030B

Analyst: MCH

% Moist:

Tech: MCH

Seq Number: 3052441

Date Prep: 06.05.18 11.00

Subcontractor: SUB: TX104704215-18-26

Prep seq: 7656104

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|-----------|------------|----------|---------|---------|-------|----------------|------|------------|
| Benzene | 71-43-2 | <0.00250 | 0.00500 | 0.00250 | mg/L | 06.05.18 12:48 | U | 5 |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|-----------------------|------------|----------|-------|---------------|------|
| Dibromofluoromethane | 101 | 75 - 131 | % | | |
| 1,2-Dichloroethane-D4 | 94 | 63 - 144 | % | | |
| Toluene-D8 | 88 | 80 - 117 | % | | |

- 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: COG Patron 2300 4JR

Work Orders : 587380,

Project ID:

Lab Batch #: 3052441

Sample: 7656104-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/05/18 11:19

SURROGATE RECOVERY STUDY

| TCLP BTEX by SW 8260B Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-----------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| Dibromofluoromethane | 0.0464 | 0.0500 | 93 | 75-131 | |
| 1,2-Dichloroethane-D4 | 0.0502 | 0.0500 | 100 | 63-144 | |
| Toluene-D8 | 0.0475 | 0.0500 | 95 | 80-117 | |

Lab Batch #: 3052441

Sample: 7656104-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/05/18 11:37

SURROGATE RECOVERY STUDY

| TCLP BTEX by SW 8260B Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-----------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| Dibromofluoromethane | 0.0473 | 0.0500 | 95 | 75-131 | |
| 1,2-Dichloroethane-D4 | 0.0517 | 0.0500 | 103 | 63-144 | |
| Toluene-D8 | 0.0494 | 0.0500 | 99 | 80-117 | |

Lab Batch #: 3052441

Sample: 7656104-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/05/18 12:48

SURROGATE RECOVERY STUDY

| TCLP BTEX by SW 8260B Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-----------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| Dibromofluoromethane | 0.0503 | 0.0500 | 101 | 75-131 | |
| 1,2-Dichloroethane-D4 | 0.0470 | 0.0500 | 94 | 63-144 | |
| Toluene-D8 | 0.0439 | 0.0500 | 88 | 80-117 | |

Lab Batch #: 3052441

Sample: 587252-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/L

Date Analyzed: 06/05/18 20:48

SURROGATE RECOVERY STUDY

| TCLP BTEX by SW 8260B Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-----------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| Dibromofluoromethane | 0.0477 | 0.0500 | 95 | 75-131 | |
| 1,2-Dichloroethane-D4 | 0.0545 | 0.0500 | 109 | 63-144 | |
| Toluene-D8 | 0.0492 | 0.0500 | 98 | 80-117 | |

* 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: COG Patron 2300 4JR

Work Orders : 587380,

Lab Batch #: 3052441

Sample: 587252-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/L

Date Analyzed: 06/05/18 21:05

SURROGATE RECOVERY STUDY

| TCLP BTEX by SW 8260B Analytes | Amount Found [A] | True Amount [B] | Recovery % R [D] | Control Limits % R | Flags |
|---------------------------------------|------------------------|-----------------------|------------------------|--------------------------|-------|
| Dibromofluoromethane | 0.0534 | 0.0500 | 107 | 75-131 | |
| 1,2-Dichloroethane-D4 | 0.0521 | 0.0500 | 104 | 63-144 | |
| Toluene-D8 | 0.0498 | 0.0500 | 100 | 80-117 | |

* 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.

Project Name: COG Patron 2300 4JR

Work Order #: 587380

Analyst: SCM

Lab Batch ID: 3052090

Units: mg/kg

Date Prepared: 05/31/2018

Sample: 7655801-1-BKS

Batch #: 1

Project ID:

Date Analyzed: 06/01/2018

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| Inorganic Anions by EPA 300/300.1 | 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 | <0.858 | 250 | 275 | 110 | 250 | 274 | 110 | 0 | 90-110 | 20 | |

Analyst: KCS

Lab Batch ID: 3051907

Units: mg/kg

Date Prepared: 05/31/2018

Sample: 7655756-1-BKS

Batch #: 1

Date Analyzed: 05/31/2018

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| Reactive Cyanide by SW 846-Section7.3.3 | 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 | | | | | | | | | | | |
| Cyanide | <0.0583 | 20.0 | 2.53 | 13 | 20.0 | 2.54 | 13 | 0 | 5-40 | 20 | |

Analyst: YAV

Lab Batch ID: 3051947

Units: mg/kg

Date Prepared: 05/31/2018

Sample: 3051947-1-BKS

Batch #: 1

Date Analyzed: 05/31/2018

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| Reactive Sulfide by SW9034 | 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 | | | | | | | | | | | |
| Reactive Sulfide | <0.500 | 50.0 | 48.0 | 96 | 50.0 | 44.0 | 88 | 9 | 30-120 | 20 | |

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries



Project Name: COG Patron 2300 4JR

Work Order #: 587380

Analyst: MCH

Lab Batch ID: 3052441

Units: mg/L

Date Prepared: 06/05/2018

Sample: 7656104-1-BKS

Batch #: 1

Project ID:

Date Analyzed: 06/05/2018

Matrix: Water

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| TCLP BTEX by SW 8260B | | | | | | | | | | | |
|-----------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| | | | | | | | | | | | |
| Benzene | <0.00250 | 0.500 | 0.539 | 108 | 0.500 | 0.540 | 108 | 0 | 66-142 | 20 | |

Analyst: MLI

Lab Batch ID: 3051896

Units: mg/L

Date Prepared: 05/31/2018

Sample: 7655721-1-BKS

Batch #: 1

Date Analyzed: 05/31/2018

Matrix: Water

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| TCLP Mercury by SW-846 1311/7470A | | | | | | | | | | | |
|-----------------------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| 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 |
| | Mercury | <0.000100 | 0.00200 | 0.00173 | 87 | 0.00200 | 0.00174 | 87 | 1 | 80-120 | 20 |

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

Project Name: COG Patron 2300 4JR

Work Order #: 587380

Analyst: DEP

Lab Batch ID: 3052306

Sample: 7655946-1-BKS

Batch #: 1

Date Prepared: 06/04/2018

Date Analyzed: 06/04/2018

Matrix: Water

Project ID:

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| TCLP Metals by SW846 6010B | | | | | | | | | | | | |
|----------------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|--|
| 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 | |
| | Arsenic | <0.00336 | 1.00 | 0.919 | 92 | 1.00 | 0.928 | 93 | 1 | 75-125 | 20 | |
| | Barium | <0.000140 | 1.00 | 0.968 | 97 | 1.00 | 0.971 | 97 | 0 | 75-125 | 20 | |
| | Cadmium | <0.000131 | 1.00 | 0.944 | 94 | 1.00 | 0.941 | 94 | 0 | 75-125 | 20 | |
| | Chromium | <0.00136 | 1.00 | 0.987 | 99 | 1.00 | 0.990 | 99 | 0 | 75-125 | 20 | |
| | Lead | <0.00183 | 1.00 | 0.966 | 97 | 1.00 | 0.965 | 97 | 0 | 75-125 | 20 | |
| | Selenium | <0.00555 | 1.00 | 0.943 | 94 | 1.00 | 0.937 | 94 | 1 | 75-125 | 20 | |
| | Silver | <0.00160 | 0.500 | 0.491 | 98 | 0.500 | 0.490 | 98 | 0 | 75-125 | 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: COG Patron 2300 4JR



Work Order #: 587380

Lab Batch ID: 3052090

Date Analyzed: 06/01/2018

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 587510-004 S

Date Prepared: 05/31/2018

Batch #: 1 Matrix: Soil
Analyst: SCM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| Inorganic Anions by EPA 300/300.1 | | | | | | | | | | | |
|-----------------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| 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 | 30.9 | 246 | 313 | 115 | 246 | 318 | 117 | 2 | 90-110 | 20 | X |

Lab Batch ID: 3052090

Date Analyzed: 06/01/2018

Reporting Units: mg/kg

QC- Sample ID: 587532-003 S

Date Prepared: 05/31/2018

Batch #: 1 Matrix: Soil
Analyst: SCM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| Inorganic Anions by EPA 300/300.1 | | | | | | | | | | | |
|-----------------------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| 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 | 74.1 | 249 | 356 | 113 | 249 | 354 | 112 | 1 | 90-110 | 20 | X |

Lab Batch ID: 3052441

Date Analyzed: 06/05/2018

Reporting Units: mg/L

QC- Sample ID: 587252-001 S

Date Prepared: 06/05/2018

Batch #: 1 Matrix: Soil
Analyst: MCH

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| TCLP BTEX by SW 8260B | | | | | | | | | | | |
|-----------------------|--------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|------|
| Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| | | | | | | | | | | | |
| Benzene | <0.00250 | 0.500 | 0.527 | 105 | 0.500 | 0.530 | 106 | 1 | 66-142 | 20 | |

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: COG Patron 2300 4JR



Work Order #: 587380

Lab Batch ID: 3051896

Date Analyzed: 05/31/2018

Reporting Units: mg/L

Project ID:

QC- Sample ID: 586897-013 S

Date Prepared: 05/31/2018

Batch #: 1 Matrix: Ground Water
Analyst: MLI

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| TCLP Mercury by SW-846 1311/7470A | | | | | | | | | |
|-----------------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|
| 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 |
| Mercury | <0.000100 | 0.00200 | 0.000928 | 46 | 0.00200 | 0.000912 | 46 | 2 | 75-125 |
| | | | | | | | | | X |

Lab Batch ID: 3051896

Date Analyzed: 05/31/2018

Reporting Units: mg/L

QC- Sample ID: 586897-015 S

Date Prepared: 05/31/2018

Batch #: 1 Matrix: Ground Water
Analyst: MLI

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| TCLP Mercury by SW-846 1311/7470A | | | | | | | | | |
|-----------------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|
| 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 |
| Mercury | <0.000100 | 0.00200 | 0.00167 | 84 | 0.00200 | 0.00169 | 85 | 1 | 75-125 |
| | | | | | | | | | 20 |

Lab Batch ID: 3052306

Date Analyzed: 06/04/2018

Reporting Units: mg/L

QC- Sample ID: 587130-001 S

Date Prepared: 06/04/2018

Batch #: 1 Matrix: Waste Water
Analyst: DEP

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| TCLP Metals by SW846 6010B | | | | | | | | | |
|----------------------------|-----------------|--------------------------|----------------------|-----------------|------------------------------------|--------------------|-------|-------------------|---------------------|
| 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 |
| Arsenic | <0.00336 | 1.00 | 0.741 | 74 | 1.00 | 0.772 | 77 | 4 | 75-125 |
| Barium | 1.80 | 1.00 | 2.55 | 75 | 1.00 | 2.56 | 76 | 0 | 75-125 |
| Cadmium | <0.000131 | 1.00 | 1.04 | 104 | 1.00 | 1.05 | 105 | 1 | 75-125 |
| Chromium | <0.00136 | 1.00 | 0.766 | 77 | 1.00 | 0.764 | 76 | 0 | 75-125 |
| Lead | <0.00183 | 1.00 | 0.656 | 66 | 1.00 | 0.660 | 66 | 1 | 75-125 |
| Selenium | 0.0237 | 1.00 | 0.940 | 92 | 1.00 | 0.927 | 90 | 1 | 75-125 |
| Silver | 0.00669 | 0.500 | 0.618 | 122 | 0.500 | 0.617 | 122 | 0 | 75-125 |

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.

Project Name: COG Patron 2300 4JR

Work Order #: 587380

Lab Batch #: 3052471

Date Analyzed: 06/06/2018 13:15

QC- Sample ID: 587749-001 D

Reporting Units: Deg F

Date Prepared: 06/06/2018

Batch #: 1

Project ID:

Analyst: TRS

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY

| Flash Point (Closed Cup Tester) | Parent Sample Result [A] | Sample Duplicate Result [B] | %RPD | RPD Limit | Flag |
|---------------------------------|--------------------------|-----------------------------|------|-----------|------|
| Analyte | | | | | |
| Flash Point | >180 | >180 | 0 | 25 | U |

Lab Batch #: 3051907

Date Analyzed: 05/31/2018 14:18

QC- Sample ID: 587631-001 D

Reporting Units: mg/kg

Date Prepared: 05/31/2018

Batch #: 1

Analyst: KCS

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY

| Reactive Cyanide by SW 846-Section 7.3.3 | Parent Sample Result [A] | Sample Duplicate Result [B] | %RPD | RPD Limit | Flag |
|--|--------------------------|-----------------------------|------|-----------|------|
| Analyte | | | | | |
| Cyanide | <0.0117 | <0.0117 | 0 | 20 | U |

Lab Batch #: 3051947

Date Analyzed: 05/31/2018 13:10

QC- Sample ID: 587157-001 D

Reporting Units: mg/kg

Date Prepared: 05/31/2018

Batch #: 1

Analyst: YAV

Matrix: Sludge

SAMPLE / SAMPLE DUPLICATE RECOVERY

| Reactive Sulfide by SW9034 | Parent Sample Result [A] | Sample Duplicate Result [B] | %RPD | RPD Limit | Flag |
|----------------------------|--------------------------|-----------------------------|------|-----------|------|
| Analyte | | | | | |
| Reactive Sulfide | <0.500 | <0.500 | 0 | 20 | U |

Lab Batch #: 3051947

Date Analyzed: 05/31/2018 13:10

QC- Sample ID: 587631-001 D

Reporting Units: mg/kg

Date Prepared: 05/31/2018

Batch #: 1

Analyst: YAV

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY

| Reactive Sulfide by SW9034 | Parent Sample Result [A] | Sample Duplicate Result [B] | %RPD | RPD Limit | Flag |
|----------------------------|--------------------------|-----------------------------|------|-----------|------|
| Analyte | | | | | |
| Reactive Sulfide | <0.500 | <0.500 | 0 | 20 | U |

Log Difference
Spike Relative Difference
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Log Diff. = Log(Sample Duplicate) - Log(Original Sample)
RPD 200 * |(B-A)/(B+A)|

Project Name: COG Patron 2300 4JR

Work Order #: 587380

Lab Batch #: 3051881

Date Analyzed: 05/31/2018 11:30

Date Prepared: 05/31/2018

Project ID:

Analyst: KBU

QC- Sample ID: 587631-001 D

Batch #: 1

Matrix: Soil

Reporting Units: SU

| SAMPLE / SAMPLE DUPLICATE RECOVERY | | | | | |
|------------------------------------|--|--|--|--|--|
|------------------------------------|--|--|--|--|--|

| Soil pH | Parent Sample Result [A] | Sample Duplicate Result [B] | %RPD | RPD Limit | Flag |
|---------|--------------------------|-----------------------------|------|-----------|------|
| Analyte | | | | | |
| pH | 7.71 | 7.72 | 0 | 20 | |

Log Difference

Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

Spike Relative Difference

$RPD\ 200 * |(B-A)/(B+A)|$

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

BRL - Below Reporting Limit



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

☐ 6701 Harry Hines Blvd., Dallas, TX 75220 214-902-0300
☐ 12800 West I-20 East, Odessa, TX 79765 432-563-1800

Serial #: 330915 Page 1 of 1

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

| | | | |
|---|---------------|--|-----------------|
| Company City | | Phone | |
| TRC Solutions | | 432-466-4450 | |
| Project Name-Location | | Previously done at XENCO Project ID | |
| CAG-Park 23004TR | | | |
| Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other NM | | Proj. Manager (PM) Joe Lourey | |
| E-mail Results to EPM and FPM and FNo: | | ALGORESE@PAUL.COM | |
| Invoice to Accounting Inc. Invoice with Final Report Invoice must have a P.O. | | | |
| Bill to: PLAINS MARKETING | | P.O. No: | |
| Quote/Pricing: | | Call for P.O. | |
| Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP | | | |
| QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER: | | | |
| Special DLs (GW DW QAPP MDLs RLs See Lab PM Included Call PM) | | | |
| Sampler Name: BECKY GRIFFIN | | Signature | |
| Sample ID | Sampling Date | Time | Depth ft' In" m |
| 1 | 5-24-18 | 9:00 | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| Relinquished by (Initials and Sign) | | Date & Time | |
| 1 | | 5-25-18 3:58 | |
| 2 | | 5-25-18 4:12 | |
| 3 | | 5-25-18 4:12 | |
| 4 | | 5-25-18 4:12 | |
| 5 | | 5-25-18 4:12 | |
| 6 | | 5-25-18 4:12 | |
| 7 | | 5-25-18 4:12 | |
| 8 | | 5-25-18 4:12 | |
| 9 | | 5-25-18 4:12 | |
| 10 | | 5-25-18 4:12 | |
| Relinquished to (Initials and Sign) | | Date & Time | |
| 1 | | 5-25-18 3:58 | |
| 2 | | 5-25-18 4:12 | |
| 3 | | 5-25-18 4:12 | |
| 4 | | 5-25-18 4:12 | |
| 5 | | 5-25-18 4:12 | |
| 6 | | 5-25-18 4:12 | |
| 7 | | 5-25-18 4:12 | |
| 8 | | 5-25-18 4:12 | |
| 9 | | 5-25-18 4:12 | |
| 10 | | 5-25-18 4:12 | |
| Composite | | Grab | |
| # Containers | | Container Size | |
| Container Type | | Preservatives | |
| VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs | | VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other: | |
| PAHs SIM 8310 8270 | | TX-1005 DRO GRO MA EPH MA VPH | |
| SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL | | OC Pesticides PCBs Herbicides OP Pesticides | |
| Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2 | | SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs) | |
| EDB / DBCP | | RCI | |
| TCLP METALS | | TCLP BENZENE | |
| NORM | | CHLORIDES | |
| 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 | |
| Remarks | | | |
| Addn: | | Date | |
| Rcv. by: | | From: | |



Inter-Office Shipment

Page 1 of 1

IOS Number **107869**

Date/Time: 05/29/18 09:25

Lab# From: **Midland**

Lab# To: **Houston**

Created by: **Katie Lowe**

Delivery Priority:

Air Bill No.: **772346347071**

Please send report to: **Kelsey Brooks**

Address: **1211 W. Florida Ave, Midland TX 79701**

Phone:

E-Mail: **kelsey.brooks@xenco.com**

| Sample Id | Matrix | Client Sample Id | Sample Collection | Method | Method Name | Lab Due | HT Due | PM | Analytes | Sign |
|------------|--------|------------------|-------------------|----------------|--|----------|----------|-----|----------------------|------|
| 587380-001 | S | WC | 05/24/18 09:00 | SW1010 | Flash Point (Closed Cup Tester) | 06/04/18 | 06/23/18 | KEB | FLASHPT | |
| 587380-001 | W | WC | 05/24/18 09:00 | SW6010B TCLP | TCLP Metals by SW846 6010B | 06/04/18 | 11/20/18 | KEB | AG AS BA CD CR PB SE | |
| 587380-001 | W | WC | 05/24/18 09:00 | SW7470A_TCLP | TCLP Mercury by SW-846 1311/7470A | 06/04/18 | 06/21/18 | KEB | HG | |
| 587380-001 | W | WC | 05/24/18 09:00 | SW8260BTX_TCLP | TCLP BTEX by SW 8260B | 06/04/18 | 06/07/18 | KEB | BZ | |
| 587380-001 | S | WC | 05/24/18 09:00 | SW9012_RCI | Reactive Cyanide by SW 846-Section 7.3.3 | 06/04/18 | 06/07/18 | KEB | CN | |
| 587380-001 | S | WC | 05/24/18 09:00 | SW9034_RCI | Reactive Sulfide by SW9034 | 06/04/18 | 06/07/18 | KEB | RS | |
| 587380-001 | S | WC | 05/24/18 09:00 | SW9045C | Soil pH | 06/04/18 | 06/21/18 | KEB | | |

Inter Office Shipment or Sample Comments:

Relinquished By

Katie Lowe
Katie Lowe

Date Relinquished: 05/29/2018

Received By:

Maria Paula Guerra
Maria Paula Guerra

Date Received: 05/30/2018 10:00

Cooler Temperature: 5.8



XENCO Laboratories



Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 107869

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR:HOU068

Sent By: Katie Lowe

Date Sent: 05/29/2018 09:25 AM

Received By: Maria Paula Guerra

Date Received: 05/30/2018 10:00 AM

Sample Receipt Checklist

Comments

| | |
|---|-----|
| #1 *Temperature of cooler(s)? | 5.8 |
| #2 *Shipping container in good condition? | Yes |
| #3 *Samples received with appropriate temperature? | Yes |
| #4 *Custody Seals intact on shipping container/ cooler? | No |
| #5 *Custody Seals Signed and dated for Containers/coolers | N/A |
| #6 *IOS present? | N/A |
| #7 Any missing/extra samples? | No |
| #8 IOS agrees with sample label(s)/matrix? | Yes |
| #9 Sample matrix/ properties agree with IOS? | Yes |
| #10 Samples in proper container/ bottle? | Yes |
| #11 Samples properly preserved? | Yes |
| #12 Sample container(s) intact? | Yes |
| #13 Sufficient sample amount for indicated test(s)? | Yes |
| #14 All samples received within hold time? | Yes |

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Maria Paula Guerra

Date: 05/30/2018



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: TRC Solutions, Inc

Date/ Time Received: 05/26/2018 10:00:00 AM

Work Order #: 587380

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 | |
| #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 | Limited sample |
| #16 All samples received within hold time? | Yes | |
| #17 Subcontract of sample(s)? | Yes | Houston |
| #18 Water VOC samples have zero headspace? | N/A | |

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 05/29/2018

Checklist reviewed by:

Kelsey Brooks

Date: 05/31/2018

**TRC Solutions**

ATTN: Joel Lowry
2057 Commerce
Midland, TX 79703
432-520-7720

Sample Type: Sludge
Sample Condition: Intact/ Ambient deg C
Lab ID#: 587380-001
Project Name: COG Patron 2300 4JR
Project # :
Project Location: NM

Sample Date: 05/11/18
Sample Time:
Receiving Date: 05/26/18
Analysis Date: 06/04/18
Analysis Time: 15:26
Field Code: 15373 bx 117

| Analysis Description | Analysis Results pCi/G | Analysis Error +/- 2s | Analysis Results Bq/G | Analysis Error +/- 2s | Analysis Test Method | Analysis Technician |
|----------------------|------------------------|-----------------------|-----------------------|-----------------------|----------------------|---------------------|
| Ra-226 | <2.3 | N/A | <.09 | N/A | EPA 901.1M | KEB |
| Ra-228 | <.88 | N/A | <.03 | N/A | EPA 901.1M | KEB |
| Pb-210 | <2.43 | N/A | <.09 | N/A | EPA 901.1M | KEB |
| Th-228 | <4.3 | N/A | <.16 | N/A | EPA 901.1M | KEB |
| Bi-214 | <.44 | N/A | <.02 | N/A | EPA 901.1M | KEB |
| Total Activity | 0.00 | N/A | 0.00 | N/A | EPA 901.1M | KEB |

Notes:

Quality Assurance Review

Xenco Laboratories assumes no liability for the use or interpretation of any analytical results other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.

Xenco Laboratories 1211 W Florida Ave, Midland TX 79701 (432)-704-5440



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 599256.31

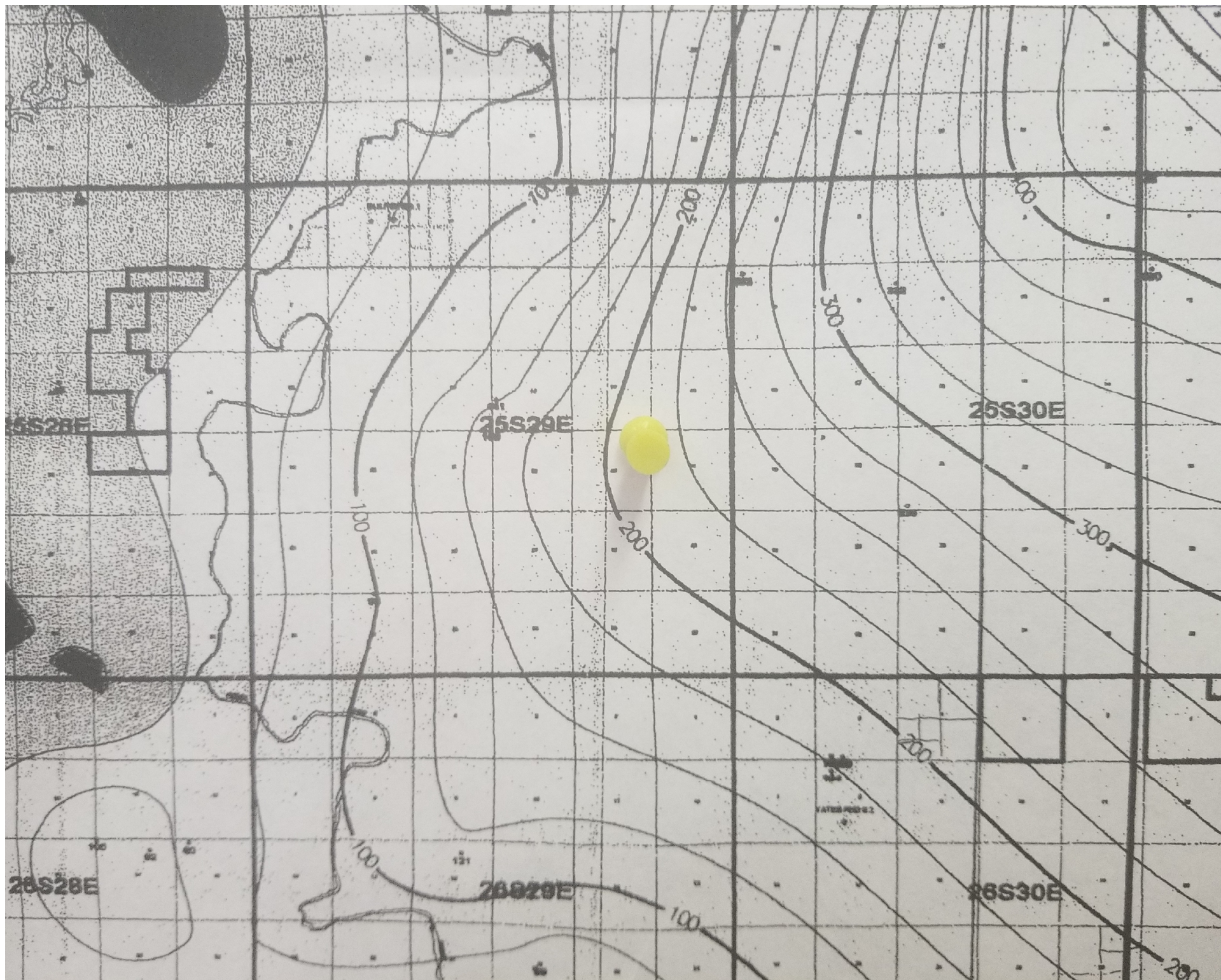
Northing (Y): 3554420.86

Radius: 1610

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

10/5/18 12:43 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER



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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
Documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| | |
|--|--|
| 1. Generator Name and Address: Plains Pipeline, LP 505 Big Spring St, Suite 600 Midland, Texas 79701 | |
| 2. Originating Site: Plains Pipeline, LP COG Patron 23 #004 TR | |
| 3. Location of Material (Street Address, City, State or ULSTR): UL "A", Sec. 23, T25S, R29E | |
| 4. Source and Description of Waste: Crude Oil Affected Soil | |
| Estimated Volume <u>80</u> yd ³ / bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd ³ / bbls | |
| 5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, <u>Amber Groves</u> , representative or authorized agent for <u>Plains Pipeline, LP</u> do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) <input type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- exempt waste. <i>Operator Use Only: Waste Acceptance Frequency</i> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load <input checked="" type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) <input type="checkbox"/> MSDS Information <input checked="" type="checkbox"/> RCRA Hazardous Waste Analysis <input type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS I, <u>Amber Groves</u> , representative for <u>Plains Pipeline, LP</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC. | |
| 5. Transporter: <u>Manual Mata Trucking, LLC</u> | |

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Lea Land, LLC - NMOCD Permit #NM-01-035

Address of Facility: Mile Marker 64, Highway 62, Carlsbad, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☒ Landfill ☐ Other

Waste Acceptance Status:

☒ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Sarahlyn Hall

TITLE: Mktg. Mgr.

DATE: 9/6/18

SIGNATURE: Sarahlyn Hall
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: (505) 899-1187

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

MAR 15 2018

Form C-141
Revised April 3, 2017

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

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

PAB1807840259
NAB180784042B

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

| | | |
|--|-------|-----------------------------|
| Name of Company Plains Pipeline | 34053 | Contact Amber Groves |
| Address 1911 Connie Rd, Carlsbad NM 88220 | | Telephone No. (575)200-5517 |
| Facility Name COG Patron 23 Federal No. 004H | | Facility Type Tank Battery |

| | | |
|-------------------|-------------------|---------|
| Surface Owner BLM | Mineral Owner BLM | API No. |
|-------------------|-------------------|---------|

LOCATION OF RELEASE

| | | | | | | | | |
|------------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|--------|
| Unit Letter A | Section 23 | Township 25S | Range 29E | Feet from the | North/South Line | Feet from the | East/West Line | County |
|------------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|--------|

Latitude 32.1217918 Longitude -103.9478047 NAD83

NATURE OF RELEASE

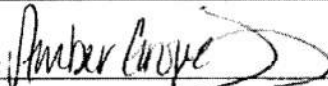
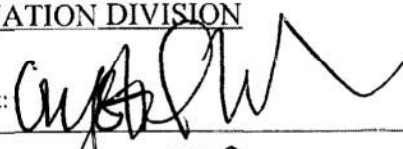
| | | |
|--|---|---|
| Type of Release Crude Oil | Volume of Release 5 bbls | Volume Recovered 4 bbls |
| Source of Release Strainer on unit | Date and Hour of Occurrence 3/9/2018 @ 9:00 AM | Date and Hour of Discovery 3/9/2018 @ 10:13 AM |
| Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom? Voicemail to Mike Bratcher | |
| By Whom? Amber Groves | Date and Hour 3/9/2018 @ 1:15 PM | |
| Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If YES, Volume Impacting the Watercourse. | |

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Operator error while maintenance was being performed on the strainer inside of the facility. A vacuum truck was dispatched for immediate response.

Describe Area Affected and Cleanup Action Taken.*
The impacted area is contained to the facility/pad and will be remediated per current NMOCD guidelines.

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

| | | |
|--|---|---|
| Signature:  | OIL CONSERVATION DIVISION | |
| Printed Name: Amber Groves | Approved by Environmental Specialist:  | |
| Title: Remediation Coordinator | Approval Date: 3/19/18 | Expiration Date: N/A |
| E-mail Address: algroves@paalp.com | Conditions of Approval: see attached | Attached <input checked="" type="checkbox"/> ARP-4665 |
| Date: 3/15/2018 Phone: 575-200-5517 | | |

* Attach Additional Sheets If Necessary

3/14/18 AB