REMEDIATION SUMMARY

AND SITE

CLOSURE REQUEST

Regency Field Services, LLC Formerly Southern Union Gas Services Grobe 4-Inch Historical Release Site Lea County, New Mexico UNIT LTR "A" (NE ¼ /NE ¼), Section 8, Township 24 South, Range 37 East Latitude 32º 14.141' North, Longitude 103º 10.665' West NMOCD Reference # 1RP-1940

Prepared For:

Regency Field Services, LLC, 801 South Loop 464 Monahans, Texas 79756

Prepared By:

NOVA Safety & Environmental 2057 Commerce Midland, Texas 79703

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Curt D. Stanley Project Manager Brittan K. Byerly, P.G. President

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1.0 INTRODUCTION

NOVA Safety & Environmental (NOVA), on behalf of Regency Field Services LLC (Regency), formerly Southern Union Gas Services (SUGS), has prepared this Remediation Summary and Site Closure Request for the Grobe 4-Inch Historical Release Site. The legal description of the Release Site is Unit Letter "A" (NE ¼ NE ¼), Section 8, Township 24 South, Range 37 East, in Lea County, New Mexico. The property affected by the release is owned by Mrs. Elena Grobe. The Release Site GPS coordinates are 32° 14.141' North and 103° 10.665' West. Please reference Figure 1 for a Site Location Map and Figure 2 for a Site Details and Confirmation Soil Sample Locations Map. Site photographs are provided as Appendix B. The Release Notification and Corrective Action (Form C-141) is provided as Appendix C.

On August 26, 2008, Regency discovered a release of crude oil and natural gas had occurred from a four (4) inch steel pipeline. The cause of the release was attributed to failure of a segment of the steel pipeline. The pipeline was blocked in, blown down and approximately five hundred (500) feet of steel pipeline was replaced with poly line. On August 28, 2008, Regency submitted the Release Notification and Corrective Action (C-141) to the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office. The C-141 indicated approximately ten (10) barrels of crude oil and 50 mcf of natural gas were released from the pipeline with no recovery occurring.

Regency has researched and identified various historical release sites located in New Mexico. At the request of Regency, NOVA has reviewed the historical data for these sites and conducted the necessary activities to ensure the sites meet the criteria for closure in accordance with NMOCD regulatory guidelines.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Office of the State Engineer (NMOSE) database did not identify the average depth to groundwater information for Section 8, Township 24 South, Range 37 East. A reference map utilized by the NMOCD indicated depth to groundwater at the Release Site should be encountered at approximately ninety (90) feet below ground surface (bgs). The depth to groundwater at the Grobe 4-Inch Historical Release Site results in a score of ten (10) points being assigned to the site, based on the NMOCD depth to groundwater criteria.

The water well database, maintained by the NMOSE, indicated there are no water wells less than 1,000 feet from the release, resulting in zero (0) points being assigned to this site as a result of this criteria.

There are no surface water bodies located within 1,000 feet of the site. Based on the NMOCD ranking system zero (0) points will be assigned to the site as a result of the criteria.

The NMOCD guidelines indicate the Grobe 4-Inch Historical Release Site has ranking score of ten (10). Based on this score, the soil remediation levels for a site with a ranking score of ten (10) points are as follows:

- Benzene -10 mg/Kg (ppm)
- Benzene, Toluene, Ethylbenzene, Xylene (BTEX) 50 mg/Kg (ppm)
- Total Petroleum Hydrocarbon (TPH) 1,000 mg/Kg (ppm)

The NMOCD chloride cleanup level concentrations are site specific and will be determined by the NMOCD Hobbs District Office.

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On March 22, 2013, NOVA commenced soil activities at the Grobe 4-Inch Historical Release Site. The resulting excavation measured approximately one hundred sixty (160) feet in length and varied from approximately thirty-five (35) feet to sixty (60) feet in width, and was approximately nineteen (19) feet in depth. The excavated soil was stockpiled in a cleared area to the south of the excavation pending final disposition. Please reference Figure 2 for site details.

Based on historical documentation and stressed vegetation, two (2) investigation trenches were excavated in the vicinity of the inferred release point. The trenches were completed to varying depths of approximately nine (9) to twenty-three (23) feet bgs. The depth of the trenches was determined by a review of historical data and by field observations conducted during excavation activities.

The first trench was excavated along the SUG pipeline in an east-west direction. The east-west trench measured approximately one hundred five (105) feet in length and was approximately ten (10) feet in width. The second trench was excavated in a north-south direction and intersected the east-west trench. The north-south trench measured approximately sixty-five (65) feet in length and was approximately ten (10) feet in width. Refer to Figure 2 for site details.

On March 22, 2013, two (2) soil samples (RP @ 9' and West S/W-1 @ 8') were collected from the east-west trench and submitted to the laboratory for determination of concentrations of benzene, toluene, ethyl-benzene, and xylene (BTEX), total petroleum hydrocarbons (TPH), and chlorides using EPA SW-846 8021b, 8015M, and E 300, respectively. The laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the applicable laboratory method detection limit (MDL) for each sample. Chloride concentrations ranged from 225 mg/Kg for soil sample West S/W-1 @ 8' to 620 mg/Kg for soil sample RP @ 9'. Based on the analytical results for soil sample RP @ 9', vertical delineation was not complete and additional excavation was warranted at the inferred release point. Table 1 Summarizes the Concentrations of Benzene, BTEX, TPH and Chlorides in Soil. Laboratory analytical reports are provided as Appendix A.

On March 25, 2013, six (6) soil samples (RP @ 19', RP @ 21', RP @ 23', East S/W-1 @ 9', East S/W-2 @ 9', and East S/W-3 @ 9') were collected from the east-west trench and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the applicable laboratory MDL for all submitted soil samples. Chloride concentrations ranged from 186 mg/Kg for soil sample RP @ 23' to 633 mg/Kg for soil sample East S/W-1 @ 9'. Based on the analytical results for soil sample RP @ 23', vertical delineation of the Release Site was complete. Based on the analytical results for soil sample East

S/W-3 @ 9', horizontal delineation of the east sidewall on the north side of the pipeline was completed.

On March 26, 2013, five (5) soil samples (North S/W-1 @ 9', North S/W-2 @ 9', South S/W-1 @ 9', South S/W-2 @ 9', and South S/W-3 @ 9') were collected from the north-south trench and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, and BTEX concentrations were less than the applicable laboratory MDL for all the submitted soil samples. TPH concentrations ranged from less than the applicable laboratory MDL for soil samples North S/W-1 @ 9', North S/W-2 @ 9', and South S/W-1 @ 9' to 18.1 mg/Kg for soil sample South S/W-2 @ 9'. Chloride concentrations ranged from 2.56 mg/Kg for soil sample South S/W-3 @ 9' to 763 mg/Kg for soil sample North S/W-1@ 9'. Based on the analytical results for soil samples North S/W-2 @ 9' and South S/W-2 @ 9', horizontal delineation of the north and south sidewalls was completed.

On March 27, 2013, two (2) soil samples (Caliche and Topsoil) were collected from the stockpiled soil and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX and TPH concentrations were less than the applicable laboratory MDL for each soil sample. Chloride concentrations ranged from 39.5 mg/Kg for soil sample Topsoil to 372 mg/Kg for soil sample Caliche. Based on the analytical results, the soil represented by soil samples "Caliche" and "Topsoil" was deemed suitable as backfill material.

On May 13, 2013, Regency and NOVA representatives met with an NMOCD Hobbs District Office representative to present the results of the sampling event and discuss future remediation activities to be conducted. During the meeting the NMOCD representative granted verbal approval to leave soil in-situ exhibiting chloride concentrations less than 500 mg/Kg. The area would be excavated vertically and horizontally until laboratory analytical results confirmed chloride concentrations less than 500 mg/Kg. On confirmation of chloride concentrations less than 500 mg/Kg, the area would be backfilled with the stockpiled soil exhibiting benzene, BTEX, TPH, and chloride concentrations of less than 10 mg/Kg, 50 mg/Kg, 1,000 mg/Kg, and 500 mg/Kg, respectively.

On June 11, 2013, NOVA resumed remediation activities at the site. Excavation activities commenced at the inferred release point and progressed outwardly.

On July 9, 2013, fourteen (14) soil samples (South Excavation SSW-1 @ 18', South Excavation, SSW-2 @ 18', South Excavation SSW-3 @ 18', South Excavation ESE-1 @ 18', South Excavation WSW-1 @ 18', South Excavation NSW-2 @ 18', South Excavation Floor-1 @ 19', South Excavation Floor-2 @ 19', North Excavation ESW @ 18', North Excavation NSW @ 18', North Excavation SSW @ 18', North Excavation Floor @ 19') were collected from the excavated area and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the applicable laboratory MDL for all submitted soil samples with the exception of soil samples South Excavation SSW-1 @ 18' and South Excavation NSW-1 @ 18', which exhibited BTEX concentrations of 0.00124 mg/Kg and 0.0115 mg/Kg, respectively. Chloride concentrations ranged from167 mg/Kg for soil sample South Excavation Floor-1 @ 19' to 688 mg/Kg for soil sample South Excavation NSW-1 @ 18'. A review of analytical results indicated benzene, BTEX, TPH and chloride concentrations were less than NMOCD regulatory guidelines, with the exception of soil samples South Excavation NSW-1 @ 18'. South Excavation Floor-1 @ 19' for 688 mg/Kg for soil sample South Excavation NSW-1 @ 18'. South Excavation Floor-1 @ 19' for 688 mg/Kg for soil sample South Excavation NSW-1 @ 18'. A review of analytical results indicated benzene, BTEX, TPH and chloride concentrations were less than NMOCD regulatory guidelines, with the exception of soil samples South Excavation WSW-1 @ 18', South Excavat

Excavation NSW-1 @ 18' and South Excavation NSW-2 @ 18', which exhibited chloride concentrations of 677 mg/kg, 688 mg/Kg, and 549 mg/Kg, respectively (Table 1).

Based on the analytical results additional excavation was required on the west sidewall of the South Excavation, in the area represented by soil sample South Excavation WSW-1 @ 18'. Soil samples South Excavation NSW-1 @ 18' and South Excavation NSW-2 @ 18' were collected from the soil "plug" located beneath the Regency pipeline.

Excavated soil was stockpiled south of the excavation in a cleared area and remediated by mixing and blending methods. On July 11, 2013, a portion of the stockpiled soil was subdivided into six (6) discreet stockpiles. One (1) composite soil sample was collected from each of the six (6) stockpiles, resulting in six (6) composite soil samples, identified as SP-1 through SP-4, Topsoil-1 and Topsoil-2. Each soil sample represented approximately five hundred (500) cubic yards of remediated soil. The composite soil samples were submitted to the laboratory and analyzed for concentrations of benzene, BTEX, TPH, and chlorides. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the applicable laboratory MDL for all submitted soil samples. Chloride concentrations ranged from 26.6 mg/Kg for soil sample Topsoil-1 to 225 mg/Kg for soil sample SP-2 (Table 1). Based on the laboratory analytical results of the stockpiled soil represented by soil samples SP-1 through SP-4, Topsoil-1, and Topsoil-2 was deemed suitable for use as backfill material.

Additional excavation activities were conducted along the west wall of the South Excavation. On August 12, 2013, one (1) soil sample (South Excavation West S/W-1A @ 18') was collected from the excavated area and submitted to the laboratory for analysis. Laboratory analytical results indicated a chloride concentration of 398 mg/Kg for the soil sample.

On August 14, 2013, one (1) soil sample (South Excavation Floor-2 @ 19') was collected from the floor of the excavated area and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX and TPH concentrations were less than the applicable laboratory MDL. The soil sample exhibited a chloride concentration of 226 mg/Kg.

On August 15, 2013, a trench was installed outside of the South Excavation, approximately twenty-five (25) feet west of soil sample South Excavation West S/W-1A @ 18'. The trench was installed to horizontally delineate the westernmost extent of chloride impacted soil. The trench was installed to a total depth of approximately nine (9) feet bgs. A soil sample (West S/W-2 @ 9') was collected from the floor of the trench and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the applicable laboratory MDL and the soil sample exhibited a chloride concentration of 84.5 mg/Kg.

On August 16, 2013, the remaining stockpiled soil was subdivided into six (6) discreet stockpiles. One (1) composite soil sample was collected from each stockpile, resulting in six (6) composite soil samples, identified as SP-5 through SP-8, Topsoil-3 and Topsoil-4. Each soil sample represented approximately five hundred (500) cubic yards of remediated soil. The composite soil samples were submitted to the laboratory and analyzed for concentrations of benzene, BTEX, TPH, and chlorides. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the applicable laboratory MDL for all submitted soil samples with the exception of soil sample Topsoil-3, which exhibited a TPH concentration of

32.9 mg/Kg. Chloride concentrations ranged from 37.1 mg/Kg for soil sample Topsoil-4 to 304 mg/Kg for soil sample SP-6. Based on the laboratory analytical results, the stockpiled soil was deemed suitable for use as backfill material.

On August 23, 2013, Regency and NOVA representatives met with an NMOCD Hobbs District Office representative to present the results of the sampling event and request permission to backfill the excavation. The NMOCD District Office representative granted verbal approval to backfill the excavation with the remediated stockpiled soil. In addition, the NMOCD representative granted approval to leave in-situ, the soil "plug" in-situ beneath the Regency pipeline represented by soil samples South Excavation NSW-1 @ 18' and South Excavation NSW-2 @ 18'. The remaining chloride impacted soil located beneath the pipeline will be remediated at the time of abandonment.

On August 29, 2013, NOVA commenced backfilling activities. The excavation was backfilled with the remediated stockpiled soil and the soil was compacted. On completion of backfilling activities the site was contoured to fit the surrounding topography.

4.0 QA/QC PROCEDURES

4.1 Soil Sampling

Soil samples were delivered to Xenco Laboratories of Odessa, Texas for BTEX and/or TPH and/or chloride analyses using the methods described below. Soil samples were analyzed for BTEX and/or TPH and/or chloride concentrations within fourteen (14) days following the sampling event.

The soil samples were analyzed as follows:

- BTEX by EPA Method 8021B, 5030
- TPH by modified EPA Method 8015M GRO/DRO
- Chloride by Method E 300.

4.2 Decontamination of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

4.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-ofcustody (COC) form. These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

5.0 SITE CLOSURE REQUEST

Based on the analytical results of confirmation soil samples, NOVA recommends Regency provide the NMOCD a copy of this Remediation Summary and Site Closure Request and request the NMOCD grant final closure to the Grobe 4-Inch Historical Release Site.

6.0 LIMITATIONS

NOVA Safety and Environmental has prepared this Report on behalf of, and for the sole and exclusive use of Regency Field Services, LLC. This report was prepared by NOVA Safety and Environmental for the benefit of Regency Field Services, LLC. The information contained in this Report may be released to third parties, who may use and rely upon the information at their discretion. However, any use of or reliance upon the information by a party other than specifically named above shall create no rights, obligations, or liabilities on the part of NOVA Safety and Environmental with respect to any such party. The information shall not be used or relied upon by a party that does not agree to be bound by the above statement.

In preparing this Report, NOVA Safety and Environmental may have obtained and relied upon information from multiple sources including the Regency Field Services, LLC, and other consultants working for the Regency Field Services, LLC, or other parties. Unless specifically stated, NOVA Safety and Environmental has made no attempt to verify the accuracy or completeness of such information.

7.0 **DISTRIBUTION:**

- Copy 1: Tomas Oberding New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (District 1) 1625 French Drive Hobbs, New Mexico 88240
- Copy 2: Crystal Callaway Regency Energy Partners 301 Commerce Street, Suite 700 Fort Worth, Texas 76102
- Copy 3: NOVA Safety & Environmental 2057 Commerce Street Midland, Texas 79703





TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

REGENCY FIELD SERVICES, LLC GROBE 4 INCH HISTORICAL RELEASE LEA COUNTY, NEW MEXICO NMOCD 1RP-1940

All concentrations are reported in mg/Kg

					METHODS:	SW 846-8021b				METHOD: S	SW 8015M		E 300.1
SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	BENZENE	TOLUENE	ETHYL- BENZENE	m, p - XYLENES	o - Xylene	TOTAL BTEX	TPH GRO C ₆ -C ₁₂	TPH DRO C ₁₂ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
NMOCD Regulatory Limit			10	-	-	-	-	50	-	-	-	1,000	500
RP @ 9'	03/22/13	Excavated	< 0.00108	< 0.00217	< 0.00108	< 0.00217	< 0.00108	< 0.00217	<16.2	<16.2	<16.2	<16.2	620
West S/W-1 @ 8'	03/22/13	In-Situ	< 0.00109	< 0.00218	< 0.00109	< 0.00218	< 0.00109	< 0.00218	<16.4	<16.4	<16.4	<16.4	225
RP @ 19'	03/25/13	Excavated	< 0.00108	< 0.00216	< 0.00108	< 0.00216	< 0.00108	< 0.00218	<16.3	<16.3	<16.3	<16.3	478
RP @ 21'	03/25/13	Excavated	< 0.00105	< 0.00210	< 0.00105	< 0.00210	< 0.00105	< 0.00210	<15.9	<15.9	<15.9	<15.9	287
RP @ 23'	03/25/13	In-Situ	< 0.00104	< 0.00207	< 0.00104	< 0.00207	< 0.00104	< 0.00207	<15.6	<15.6	<15.6	<15.6	186
East S/W-1 @ 9'	03/25/13	Excavated	< 0.00108	< 0.00216	< 0.00108	< 0.00216	< 0.00108	< 0.00216	<16.2	<16.2	<16.2	<16.2	633
East S/W-2 @ 9'	03/25/13	Excavated	< 0.00107	< 0.00214	< 0.00107	< 0.00214	< 0.00107	< 0.00214	<16.0	<16.0	<16.0	<16.0	613
East S/W-3 @ 9'	03/25/13	In-Situ	< 0.00107	< 0.00213	< 0.00107	< 0.00213	< 0.00107	< 0.00213	<16.0	<16.0	<16.0	<16.0	214
North S/W-1 @ 9'	03/26/13	Excavated	< 0.00107	< 0.00214	< 0.00107	< 0.00214	< 0.00107	< 0.00214	<16.0	<16.0	<16.0	<16.0	763
North S/W-2 @ 9'	03/26/13	Excavated	< 0.00105	< 0.00210	< 0.00105	< 0.00210	< 0.00105	< 0.00210	<15.8	<15.8	<15.8	<15.8	171
South S/W-1 @ 9'	03/26/13	Excavated	< 0.00109	< 0.00218	< 0.00109	< 0.00218	< 0.00109	< 0.00218	<16.4	<16.4	<16.4	<16.4	641
South S/W-2 @ 9'	03/26/13	In-Situ	< 0.00110	< 0.00220	< 0.00110	< 0.00220	< 0.00110	< 0.00220	<16.6	18.1	<16.6	18.1	201
South S/W-3 @ 9'	03/26/13	In-Situ	< 0.00106	< 0.00212	< 0.00106	< 0.00212	< 0.00106	< 0.00212	<16.1	17.0	<16.1	17.0	2.56
Caliche	03/27/13	Used as Backfill	< 0.00104	< 0.00209	< 0.00104	< 0.00209	< 0.00104	< 0.00209	<15.8	<15.8	<15.8	<15.8	372
Topsoil	03/27/13	Used as Backfill	< 0.00102	< 0.00204	< 0.00102	< 0.00204	< 0.00102	< 0.00204	<15.2	<15.2	<15.2	<15.2	39.5
South Excavation, SSW-1 @ 18'	07/09/13	In-Situ	< 0.000994	< 0.00199	0.00124	< 0.00199	< 0.000994	0.00124	<15.4	<15.4	<15.4	<15.4	339
South Excavation, SSW-2 @ 18'	07/09/13	In-Situ	< 0.000996	< 0.00199	< 0.000996	< 0.00199	< 0.000996	< 0.00199	<16.0	<16.0	<16.0	<16.0	380
South Excavation, SSW-3 @ 18'	07/09/13	In-Situ	< 0.000998	< 0.00200	< 0.000998	< 0.00200	< 0.000998	< 0.00200	<16.5	<16.5	<16.5	<16.5	408
South Excavation, ESW-1 @ 18'	07/09/13	In-Situ	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<17.2	<17.2	<17.2	<17.2	487
South Excavation, WSW-1 @ 18'	07/09/13	Excavated	< 0.000998	< 0.00200	< 0.000998	< 0.00200	< 0.000998	< 0.00200	<15.2	<15.2	<15.2	<15.2	677
South Excavation, NSW-1 @ 18'	07/09/13	In-Situ	< 0.000994	< 0.00199	0.00633	0.00512	< 0.000994	0.0115	<15.1	<15.1	<15.1	<15.1	688
South Excavation, NSW-2 @ 18'	07/09/13	In-Situ	< 0.000994	< 0.00199	< 0.000994	< 0.00199	< 0.000994	< 0.00199	<15.4	<15.4	<15.4	<15.4	549
South Excavation, Floor-1 @ 19'	07/09/13	In-Situ	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<15.9	<15.9	<15.9	<15.9	167
South Excavation, Floor-2 @ 19'	07/09/13	In-Situ	< 0.000998	< 0.00200	< 0.000998	< 0.00200	< 0.000998	< 0.00200	<15.9	<15.9	<15.9	<15.9	319
North Excavation, ESW @ 18'	07/09/13	In-Situ	< 0.000992	< 0.00198	< 0.000992	< 0.00198	< 0.000992	< 0.00198	<16.0	<16.0	<16.0	<16.0	364
North Excavation, NSW @ 18'	07/09/13	In-Situ	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<15.9	<15.9	<15.9	<15.9	160
North Excavation, WSW @ 18'	07/09/13	In-Situ	< 0.00100	< 0.00201	< 0.00100	< 0.00201	< 0.00100	< 0.00201	<15.6	<15.6	<15.6	<15.6	339
North Excavation, SSW @ 18'	07/09/13	In-Situ	< 0.000998	< 0.00200	< 0.000998	< 0.00200	< 0.000998	< 0.00200	<16.1	<16.1	<16.1	<16.1	270
North Excavation, Floor @ 19'	07/09/13	In-Situ	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<16.3	<16.3	<16.3	<16.3	222
SP-1	07/11/13	Used as Backfill	< 0.000998	< 0.00200	< 0.000998	< 0.00200	< 0.000998	< 0.00200	<15.5	<15.5	<15.5	<15.5	178
SP-2	07/11/13	Used as Backfill	< 0.00199	< 0.00398	< 0.00199	< 0.00398	< 0.00199	< 0.00398	<15.6	<15.6	<15.6	<15.6	225
SP-3		Used as Backfill	< 0.00199	< 0.00398	< 0.00199	< 0.00398	< 0.00199	< 0.00398	<15.5	<15.5	<15.5	<15.5	186
SP-4		Used as Backfill	< 0.000998	< 0.00200	< 0.000998	< 0.00200	< 0.000998	< 0.00200	<15.3	<15.3	<15.3	<15.3	205

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

REGENCY FIELD SERVICES, LLC GROBE 4 INCH HISTORICAL RELEASE LEA COUNTY, NEW MEXICO NMOCD 1RP-1940

All concentrations are reported in mg/Kg

					METHODS:	SW 846-8021b				METHOD: S	SW 8015M		E 300.1
SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	BENZENE	TOLUENE	ETHYL- BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C ₆ -C ₁₂	TPH DRO C ₁₂ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	CHLORIDE
NMOCD Regulatory Limit			10	-	-	-	-	50	-	-	-	1,000	500
Topsoil-1	07/11/13	Used as Backfill	< 0.00200	< 0.00399	< 0.00200	< 0.00399	< 0.00200	< 0.00399	<15.1	<15.1	<15.1	<15.1	26.6
Topsoil-2	07/11/13	Used as Backfill	< 0.00200	< 0.00400	< 0.00200	< 0.00400	< 0.00200	< 0.00400	<15.1	<15.1	<15.1	<15.1	57.0
South Excavation West S/W-1A @ 18'	08/12/13	In-Situ	-	-	-	-	-	-	-	-	-	-	398
South Excavation Floor-3 @ 19'	08/14/13	In-Situ	< 0.000998	< 0.00200	< 0.000998	< 0.00200	< 0.000998	< 0.00200	<15.0	<15.0	<15.0	<15.0	226
West S/W-2 @ 9'	08/15/13	In-Situ	< 0.00103	< 0.00206	< 0.00103	< 0.00206	< 0.00103	< 0.00206	<15.4	<15.4	<15.4	<15.4	84.5
South Excavation SSW-4 @ 18'	08/16/13	In-Situ	< 0.00103	< 0.00206	< 0.00103	< 0.00206	< 0.00103	< 0.00206	<15.5	<15.5	<15.5	<15.5	146
Topsoil-3	08/16/13	Used as Backfill	< 0.00102	< 0.00204	< 0.00102	< 0.00204	< 0.00102	< 0.00204	<15.3	32.9	<15.3	32.9	58.7
Topsoil-4	08/16/13	Used as Backfill	< 0.00102	< 0.00204	< 0.00102	< 0.00204	< 0.00102	< 0.00204	<15.3	<15.3	<15.3	<15.3	37.1
SP-5	08/16/13	Used as Backfill	< 0.00105	< 0.00210	< 0.00105	< 0.00210	< 0.00105	< 0.00210	<15.9	<15.9	<15.9	<15.9	120
SP-6	08/16/13	Used as Backfill	< 0.00106	< 0.00213	< 0.00106	< 0.00213	< 0.00106	< 0.00213	<16.0	<16.0	<16.0	<16.0	304
SP-7	08/16/13	Used as Backfill	< 0.00105	< 0.00209	< 0.00105	< 0.00209	< 0.00105	< 0.00209	<15.8	<15.8	<15.8	<15.8	248
SP-8	08/16/13	Used as Backfill	< 0.00107	< 0.00213	< 0.00107	< 0.00213	< 0.00107	< 0.00213	<16.0	<16.0	<16.0	<16.0	271



Client: Regency Field Services, LLC. Prepared by: NOVA Project Name: Grobe 4 Inch Historical Release (1RP-1940) Location: Lea County, New Mexico

Photograph No. 1

Direction: Facing West





Photograph No. 2

Direction: Facing East

Description: Excavation activities in Progress





Client: Regency Field Services, LLC. Prepared by: NOVA Project Name: Grobe 4 Inch Historical Release (1RP-1940) Location: Lea County, New Mexico

Photograph No. 3

Direction: Facing East

Description:

View of completed excavation. Soil sample West S/W-2 @ 9' collected from trench in foreground.



Photograph No. 4

Direction: Facing Southwest

Description: View of excavation activities.



Analytical Report 460211

for Southern Union Gas Services- Monahans

Project Manager: Camille Bryant SUGS Historical Grobe 4" 1RP-1940

03-APR-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Lakeland: Florida (E84098) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



03-APR-13

TNI

Project Manager: **Camille Bryant Southern Union Gas Services- Monahans** 801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): 460211 SUGS Historical Grobe 4" 1RP-1940 Project Address: Lea County, NM

Camille Bryant:

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) 460211. 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. 460211 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully

Nicholas Straccione Project Manager

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Sample Cross Reference 460211



Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical Grobe 4" 1RP-1940

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
RP @ 9'	S	03-22-13 13:00		460211-001
West S/W-1 @ 8'	S	03-22-13 14:00		460211-002
RP @ 19'	S	03-25-13 08:50		460211-003
RP @ 21'	S	03-25-13 09:00		460211-004
RP @ 23'	S	03-25-13 10:00		460211-005
East S/W-1 @ 9'	S	03-25-13 10:20		460211-006
East S/W-2 @ 9'	S	03-25-13 11:00		460211-007
East S/W-3 @ 9'	S	03-25-13 12:00		460211-008
North S/W-1 @ 9'	S	03-26-13 09:00		460211-009
North S/W-2 @ 9'	S	03-26-13 10:00		460211-010
South S/W-1 @ 9'	S	03-27-13 09:00		460211-011
Caliche	S	03-27-13 13:00		460211-012
Topsoil	S	03-27-13 13:05		460211-013



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans Project Name: SUGS Historical Grobe 4" 1RP-1940



Project ID: Work Order Number(s): 460211 Report Date: 03-APR-13 Date Received: 03/28/2013

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-910224 BTEX by EPA 8021B SW8021BM

Batch 910224, Ethylbenzene, m_p-Xylenes recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Samples affected are: 460211-001, -003, -013, -005, -010, -007, -008, -009, -006, -002, -004, -012, -011. The Laboratory Control Sample for Ethylbenzene, m_p-Xylenes , o-Xylene is within laboratory Control Limits



Project Id: Contact: Camille Bryant Project Location: Lea County, NM

Certificate of Analysis Summary 460211

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Grobe 4" 1RP-1940



Date Received in Lab: Thu Mar-28-13 04:48 pm

Report Date: 03-APR-13

oject Location: Lea County, NM								Project Ma	nager: 1	Nicholas Stra	ccione		
	Lab Id:	460211-0	001	460211-0	02	460211-0	003	460211-0	004	460211-	005	460211-	006
Augharia Daguagtad	Field Id:	RP @) '	West S/W-1	@ 8'	RP @ 1	9'	RP @ 2	1'	RP @ 2	3'	East S/W-1	l @ 9'
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	,	SOIL	
	Sampled:	Mar-22-13	13:00	Mar-22-13 1	4:00	Mar-25-13	08:50	Mar-25-13	09:00	Mar-25-13	10:00	Mar-25-13	10:20
BTEX by EPA 8021B	Extracted:	Mar-29-13	09:40	Mar-29-13 ()9:40	Mar-29-13	09:40	Mar-29-13	09:40	Mar-29-13	09:40	Mar-29-13	09:40
	Analyzed:	Mar-29-13	10:19	Mar-29-13	0:35	Mar-29-13	11:08	Mar-29-13	11:24	Mar-29-13	11:40	Mar-29-13	11:57
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00108	ND	0.00109	ND	0.00108	ND	0.00105	ND	0.00104	ND	0.00108
Toluene		ND	0.00217	ND	0.00218	ND	0.00216	ND	0.00210	ND	0.00207	ND	0.00216
Ethylbenzene		ND	0.00108	ND	0.00109	ND	0.00108	ND	0.00105	ND	0.00104	ND	0.00108
m_p-Xylenes		ND	0.00217	-	0.00218	ND	0.00216	ND	0.00210	ND	0.00207	ND	0.00216
o-Xylene		ND	0.00108	ND	0.00109	ND	0.00108	ND	0.00105	ND	0.00104	ND	0.00108
Total Xylenes		ND	0.00108	ND	0.00109	ND	0.00108	ND	0.00105	ND	0.00104	ND	0.00108
Total BTEX		ND	0.00108	ND	0.00109	ND	0.00108	ND	0.00105	ND	0.00104	ND	0.00108
Inorganic Anions by EPA 300/300.1	Extracted:	Apr-01-13	10:00	Apr-01-13 1	0:00	Apr-01-13	10:00	Apr-01-13	10:00	Apr-01-13	10:00	Apr-01-13	10:00
	Analyzed:	Apr-02-13	03:37	Apr-02-13 (03:58	Apr-02-13	04:20	Apr-02-13	05:25	Apr-02-13	05:47	Apr-02-13	06:09
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		620	20.0	225	10.0	478	20.0	287	10.0	186	4.00	633	20.0
Percent Moisture	Extracted:												
	Analyzed:	Mar-29-13	14:00	Mar-29-13 1	4:00	Mar-29-13	14:00	Mar-29-13	14:00	Mar-29-13	14:00	Mar-29-13	14:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.46	1.00	8.34	1.00	7.95	1.00	5.29	1.00	3.90	1.00	7.81	1.00
TPH By SW8015 Mod	Extracted:	Mar-29-13	09:10	Mar-29-13 ()9:10	Mar-29-13	09:10	Mar-29-13	09:10	Apr-01-13	09:20	Mar-29-13	09:10
	Analyzed:	Mar-29-13	15:05	Mar-29-13 1	5:31	Mar-29-13	15:56	Mar-29-13	16:46	Apr-01-13	12:02	Mar-29-13	17:35
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16.2	ND	16.4	ND	16.3	ND	15.9	ND	15.6	ND	16.2
C12-C28 Diesel Range Hydrocarbons		ND	16.2	ND	16.4	ND	16.3	ND	15.9	ND	15.6	ND	16.2
C28-C35 Oil Range Hydrocarbons		ND	16.2	ND	16.4	ND	16.3	ND	15.9	ND	15.6	ND	16.2
Total TPH		ND	16.2	ND	16.4	ND	16.3	ND	15.9	ND	15.6	ND	16.2

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

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Nicholas Straccione Project Manager

Page 5 of 25



Project Id: Contact: Camille Bryant Project Location: Lea County, NM

Certificate of Analysis Summary 460211

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Grobe 4" 1RP-1940



Date Received in Lab: Thu Mar-28-13 04:48 pm

Report Date: 03-APR-13

oject Location: Lea County, NW								Project Ma	nager:	Nicholas Stra	ccione		
	Lab Id:	460211-0	07	460211-0	08	460211-0	009	460211-	010	460211-0	011	460211-	012
Auglusia Dennada I	Field Id:	East S/W-2	@ 9'	East S/W-3	@ 9'	North S/W-	1 @ 9'	North S/W-	2 @ 9'	South S/W-	1 @ 9'	Calich	ne
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL	,	SOIL	,	SOIL	,	SOII	_
	Sampled:	Mar-25-13	11:00	Mar-25-13	12:00	Mar-26-13	09:00	Mar-26-13	10:00	Mar-27-13	09:00	Mar-27-13	13:00
BTEX by EPA 8021B	Extracted:	Mar-29-13	09:40	Mar-29-13	09:40	Mar-29-13	09:40	Mar-29-13	09:40	Mar-29-13	09:40	Mar-29-13	09:40
	Analyzed:	Mar-29-13	12:13	Mar-29-13	12:30	Mar-29-13	12:46	Mar-29-13	13:03	Mar-29-13	13:35	Mar-29-13	13:52
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00107	ND	0.00107	ND	0.00107	ND	0.00105	ND	0.00109	ND	0.00104
Toluene		ND	0.00214	ND	0.00213	ND	0.00214	ND	0.00210	ND	0.00218	ND	0.00209
Ethylbenzene		ND	0.00107	ND	0.00107	ND	0.00107	ND	0.00105	ND	0.00109	ND	0.00104
m_p-Xylenes		ND	0.00214	ND	0.00213	ND	0.00214	ND	0.00210	ND	0.00218	ND	0.00209
o-Xylene		ND	0.00107	ND	0.00107	ND	0.00107	ND	0.00105	ND	0.00109	ND	0.00104
Total Xylenes		ND	0.00107	ND	0.00107	ND	0.00107	ND	0.00105	ND	0.00109	ND	0.00104
Total BTEX		ND	0.00107	ND	0.00107	ND	0.00107	ND	0.00105	ND	0.00109	ND	0.00104
Inorganic Anions by EPA 300/300.1	Extracted:	Apr-01-13	10:00	Apr-01-13	10:00	Apr-01-13	10:00	Apr-01-13	10:00	Apr-01-13	10:00	Apr-01-13	10:00
	Analyzed:	Apr-02-13	06:30	Apr-02-13	06:52	Apr-02-13	07:14	Apr-02-13	09:24	Apr-02-13	10:07	Apr-02-13	10:29
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		613	20.0	214	10.0	763	20.0	171	10.0	641	20.0	372	10.0
Percent Moisture	Extracted:												
	Analyzed:	Mar-29-13	14:00	Mar-29-13	14:00	Mar-29-13	14:00	Mar-29-13	14:00	Mar-29-13	14:00	Mar-29-13	14:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6.12	1.00	6.10	1.00	6.50	1.00	5.11	1.00	8.47	1.00	4.66	1.00
TPH By SW8015 Mod	Extracted:	Mar-29-13	09:10	Mar-29-13	09:10	Mar-29-13	09:10	Mar-29-13	09:10	Mar-29-13	09:10	Mar-29-13	09:10
	Analyzed:	Mar-29-13	18:00	Mar-29-13	18:24	Mar-29-13	18:48	Mar-29-13	19:13	Mar-29-13	19:39	Mar-29-13	20:05
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16.0	ND	16.0	ND	16.0	ND	15.8	ND	16.4	ND	15.8
C12-C28 Diesel Range Hydrocarbons		ND	16.0	ND	16.0	ND	16.0	ND	15.8	ND	16.4	ND	15.8
C28-C35 Oil Range Hydrocarbons		ND	16.0	ND	16.0	ND	16.0	ND	15.8	ND	16.4	ND	15.8
Total TPH		ND	16.0	ND	16.0	ND	16.0	ND	15.8	ND	16.4	ND	15.8

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Nicholas Straccione Project Manager



Project Id: Contact: Camille Bryant Project Location: Lea County, NM

Certificate of Analysis Summary 460211

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Grobe 4" 1RP-1940



Date Received in Lab: Thu Mar-28-13 04:48 pm

Report Date: 03-APR-13

Project Manager: Nicholas Straccione

	Lab Id:	460211-013			
Analysis Dequested	Field Id:	Topsoil			
Analysis Requested	Depth:				
	Matrix:	SOIL			
	Sampled:	Mar-27-13 13:05			
BTEX by EPA 8021B	Extracted:	Mar-29-13 09:40			
	Analyzed:	Mar-29-13 14:09			
	Units/RL:	mg/kg RL			
Benzene		ND 0.00102			
Toluene		ND 0.00204			
Ethylbenzene		ND 0.00102			
m_p-Xylenes		ND 0.00204			
o-Xylene		ND 0.00102			
Total Xylenes		ND 0.00102			
Total BTEX		ND 0.00102			
Inorganic Anions by EPA 300/300.1	Extracted:	Apr-01-13 10:00			
	Analyzed:	Apr-02-13 10:51			
	Units/RL:	mg/kg RL			
Chloride		39.5 4.00			
Percent Moisture	Extracted:				
	Analyzed:	Mar-29-13 14:00			
	Units/RL:	% RL			
Percent Moisture		1.90 1.00			
TPH By SW8015 Mod	Extracted:	Mar-29-13 09:10			
	Analyzed:	Mar-29-13 20:31			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.2			
C12-C28 Diesel Range Hydrocarbons		ND 15.2			
C28-C35 Oil Range Hydrocarbons		ND 15.2			
Total TPH		ND 15.2			

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

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Nicholas Straccione 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 quantiation 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
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Final 1.000





ork Orders : 460211 Lab Batch #: 910224	, Sample: 460211-001 / SMP	Batc	Project II h: ¹ Matrix			
Units: mg/kg	Date Analyzed: 03/29/13 10:19		RROGATE R		STUDY	
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
	Analytes			[D]		
1,4-Difluorobenzene		0.0304	0.0300	101	80-120	
4-Bromofluorobenzene		0.0271	0.0300	90	80-120	
Lab Batch #: 910224	Sample: 460211-002 / SMP	Batcl	h: ¹ Matrix	:Soil		
Units: mg/kg	Date Analyzed: 03/29/13 10:35	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorobenzene	Analytes	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene		0.0263	0.0300	87	80-120	
Lab Batch #: 910224	Sample: 460211-003 / SMP	Batcl	h: ¹ Matrix	• Soil		
Units: mg/kg	Date Analyzed: 03/29/13 11:08		RROGATE R		STUDY	
	X by EPA 8021B	Amount	True		Control	
DIE.	A by ETA 8021B Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags
1,4-Difluorobenzene	•	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene		0.0314	0.0300	105	80-120	
Lab Batch #: 910224	Sample: 460211-004 / SMP	Batcl	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 03/29/13 11:24	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
	Analytes			[D]		
1,4-Difluorobenzene		0.0291	0.0300	97	80-120	
4-Bromofluorobenzene		0.0287	0.0300	96	80-120	
Lab Batch #: 910224	Sample: 460211-005 / SMP	Batcl				
Units: mg/kg	Date Analyzed: 03/29/13 11:40	SU	RROGATE R	ECOVERY S	STUDY	
Units: mg/kg	•					
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
	-	Found	Amount		Limits	Flags

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





ork Orders : 460211 Lab Batch #: 910224	, Sample: 460211-006 / SMP	Batcl	Project II h: 1 Matrix			
Units: mg/kg	Date Analyzed: 03/29/13 11:57		RROGATE R		STUDY	
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0272	0.0300	91	80-120	
4-Bromofluorobenzene		0.0290	0.0300	97	80-120	
Lab Batch #: 910224	Sample: 460211-007 / SMP	Batcl	h: ¹ Matrix	:Soil		
Units: mg/kg	Date Analyzed: 03/29/13 12:13	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	T mary tes	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene		0.0270	0.0300	90	80-120	
Lab Batch #: 910224	Sample: 460211-008 / SMP	Batch	h: ¹ Matrix	:Soil	1 1	
Units: mg/kg	Date Analyzed: 03/29/13 12:30	SU	RROGATE R	ECOVERY S	STUDY	
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0277	0.0300	92	80-120	
4-Bromofluorobenzene		0.0251	0.0300	84	80-120	
Lab Batch #: 910224	Sample: 460211-009 / SMP	Batcl	h: 1 Matrix	:Soil	' ' ''''''''''''''''''''''''''''''''''	
Units: mg/kg	Date Analyzed: 03/29/13 12:46	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
140.0	Analytes	0.0212	0.0200		00.120	
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0312	0.0300	104 86	80-120 80-120	
					00-120	
Lab Batch #: 910224	Sample: 460211-010 / SMP	Batch	h: 1 Matrix		TUDV	
Units: mg/kg	Date Analyzed: 03/29/13 13:03	50				
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	1 xna1 y tes	0.0267	0.0300	89	80-120	
		0.0207	0.0500	07	00-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





'ork Orders : 460211 Lab Batch #: 910224	, Sample: 460211-011 / SMP	Bato	Project I h: ¹ Matrix			
Units: mg/kg	Date Analyzed: 03/29/13 13:35		RROGATE R		STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0296	0.0300	99	80-120	
4-Bromofluorobenzene		0.0283	0.0300	94	80-120	
Lab Batch #: 910224	Sample: 460211-012 / SMP	Bate	ch: ¹ Matrix	:Soil		
Units: mg/kg	Date Analyzed: 03/29/13 13:52	SU	RROGATE R	ECOVERY	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0321	0.0300	107	80-120	
4-Bromofluorobenzene		0.0290	0.0300	97	80-120	
Lab Batch #: 910224	Sample: 460211-013 / SMP	Batc	h: ¹ Matrix	:Soil	1 1	
Units: mg/kg	Date Analyzed: 03/29/13 14:09		RROGATE R		STUDY	
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4.5.9	Analytes					
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0309	0.0300	103	80-120	
		0.0297	0.0300	99	80-120	
Lab Batch #: 910227	Sample: 460211-001 / SMP	Bato		-	STUDY	
Units: mg/kg	Date Analyzed: 03/29/13 15:05	SU	RROGATE R	ECOVERYS	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		99.5	100	100	70-135	
o-Terphenyl		53.0	50.0	106	70-135	
Lab Batch #: 910227	Sample: 460211-002 / SMP	Bato	ch: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 03/29/13 15:31	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane	J	103	100	103	70-135	
o-Terphenyl			1	1		

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: SUGS Historical Grobe 4" 1RP-1940

ork Orders: 460211			Project I							
Lab Batch #: 910227	Sample: 460211-003 / SMP	Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY								
Units: mg/kg	Date Analyzed: 03/29/13 15:56	SU	RROGATE R	ECOVERY	STUDY	Y				
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1-Chlorooctane		101	100	101	70-135					
o-Terphenyl		53.2	50.1	106	70-135					
Lab Batch #: 910227	Sample: 460211-004 / SMP	Bate	ch: ¹ Matrix	:Soil						
Units: mg/kg	Date Analyzed: 03/29/13 16:46	SU	RROGATE R	ECOVERY	STUDY					
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1 Chlore esterne	Analytes	00.5	100		70.125					
1-Chlorooctane o-Terphenyl		99.5 52.3	100	100	70-135					
1				-	/0-133					
Lab Batch #: 910227	Sample: 460211-006 / SMP									
Units: mg/kg	Date Analyzed: 03/29/13 17:35	SURROGATE RECOVERY STUDY								
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane	111119105	102	99.7	102	70-135					
o-Terphenyl		54.2	49.9	102	70-135					
Lab Batch #: 910227	Sample: 460211-007 / SMP	Bato								
Units: mg/kg	Date Analyzed: 03/29/13 18:00		RROGATE R		STUDY					
	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		102	100	102	70-135					
o-Terphenyl		54.0	50.1	108	70-135					
Lab Batch #: 910227	Sample: 460211-008 / SMP	Bate	h: 1 Matrix	:Soil						
Units: mg/kg	Date Analyzed: 03/29/13 18:24	SU	RROGATE R	ECOVERYS	STUDY					
TPH]	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		98.5	99.9	99	70-135					

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: SUGS Historical Grobe 4" 1RP-1940

ork Orders: 460211			Project I							
Lab Batch #: 910227	Sample: 460211-009 / SMP	P Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY								
Units: mg/kg	Date Analyzed: 03/29/13 18:48									
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage				
	Analytes			[D]						
1-Chlorooctane		98.6	99.9	99	70-135					
o-Terphenyl		52.8	50.0	106	70-135					
Lab Batch #: 910227	Sample: 460211-010 / SMP	Bate	ch: ¹ Matrix	x: Soil						
Units: mg/kg	Date Analyzed: 03/29/13 19:13	SURROGATE RECOVERY STUDY								
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1-Chlorooctane		101	100	101	70-135					
o-Terphenyl		53.4	50.1	107	70-135					
Lab Batch #: 910227	Sample: 460211-011 / SMP									
Units: mg/kg	Date Analyzed: 03/29/13 19:39	SURROGATE RECOVERY STUDY								
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane	Anaryus	98.6	100	99	70-135					
o-Terphenyl		52.3	50.1	104	70-133					
	G 1 4(0211 012 / SMD			-	10 155					
Lab Batch #: 910227	Sample: 460211-012 / SMP	Bato	ch: 1 Matrix		STUDV					
Units: mg/kg	Date Analyzed: 03/29/13 20:05	50	KOGATE K							
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		102	100	102	70-135					
o-Terphenyl		53.8	50.1	107	70-135					
Lab Batch #: 910227	Sample: 460211-013 / SMP	Bato	ch: 1 Matrix	x: Soil						
Units: mg/kg	Date Analyzed: 03/29/13 20:31	SU	RROGATE R	ECOVERY	STUDY					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		96.0	99.7	96	70-135					
				1 1						

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: SUGS Historical Grobe 4" 1RP-1940

ork Orders: 460211			Project I							
Lab Batch #: 910363	Sample: 460211-005 / SMP	P Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY								
Units: mg/kg	Date Analyzed: 04/01/13 12:02	SU	RROGATE R	ECOVERYS	STUDY					
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1-Chlorooctane		101	100	101	70-135					
o-Terphenyl		52.6	50.0	105	70-135					
Lab Batch #: 910224	Sample: 635902-1-BLK / BI	K Bate	h: 1 Matrix	:Solid						
Units: mg/kg	Date Analyzed: 03/29/13 10:52	SURROGATE RECOVERY STUDY								
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
140.0	Analytes									
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0277	0.0300	92 80	80-120 80-120					
		0.0241			80-120					
Lab Batch #: 910227	Sample: 635905-1-BLK / BI									
Units: mg/kg	Date Analyzed: 03/29/13 11:42	SU	RROGATE R	ECOVERY	STUDY					
TPH]	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1.011	Analytes									
1-Chlorooctane		102	99.9	102	70-135					
o-Terphenyl		53.5	50.0	107	70-135					
Lab Batch #: 910363	Sample: 635984-1-BLK / BI									
Units: mg/kg	Date Analyzed: 04/01/13 11:09	SU	RROGATE R	ECOVERY	STUDY					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		98.6	100	99	70-135					
o-Terphenyl		52.5	50.1	105	70-135					
Lab Batch #: 910224	Sample: 635902-1-BKS / Bk	KS Bate	h: ¹ Matrix	:Solid						
Units: mg/kg	Date Analyzed: 03/29/13 09:30	SU	RROGATE R	ECOVERYS	STUDY					
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluorobenzene	·	0.0297	0.0300	99	80-120					

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





'ork Orders : 460211 Lab Batch #: 910227	, Sample: 635905-1-BKS / Bl	KS Batcl	Project I h: 1 Matrix				
Units: mg/kg	Date Analyzed: 03/29/13 10:51		RROGATE R	-	STUDY		
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes			[D]			
1-Chlorooctane		101	100	101	70-135		
o-Terphenyl		61.6	50.1	123	70-135		
Lab Batch #: 910363	Sample: 635984-1-BKS / Bl						
Units: mg/kg	Date Analyzed: 04/01/13 10:18	SURROGATE RECOVERY STUDY					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage	
1-Chlorooctane		91.3	99.9	91	70-135		
o-Terphenyl		60.6	50.0	121	70-135		
Lab Batch #: 910224	Sample: 635902-1-BSD / BS	SD Batcl	h: ¹ Matrix	r•Solid			
Units: mg/kg	Date Analyzed: 03/29/13 09:46		RROGATE R		STUDY		
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage	
	Analytes						
1,4-Difluorobenzene		0.0342	0.0300	114	80-120		
4-Bromofluorobenzene		0.0290	0.0300	97	80-120		
Lab Batch #: 910227	Sample: 635905-1-BSD / BS						
Units: mg/kg	Date Analyzed: 03/29/13 11:17	SU.	RROGATE R	ECOVERY S	STUDY		
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage	
1-Chlorooctane	,	100	100	100	70-135		
o-Terphenyl		58.5	50.1	117	70-135		
Lab Batch #: 910363	Sample: 635984-1-BSD / BS	SD Batcl	h: ¹ Matrix	Solid	<u> </u>		
Units: mg/kg	Date Analyzed: 04/01/13 10:44		RROGATE R		STUDY		
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage	
1-Chlorooctane		95.0	100	95	70-135		
o-Terphenyl				119	70-135		

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





ork Orders : 460211 Lab Batch #: 910224	, Sample: 460211-013 S / MS	Batc	Project I h: ¹ Matrix				
Units: mg/kg	Date Analyzed: 03/29/13 14:25		RROGATE R		STUDY		
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes			[D]			
1,4-Difluorobenzene		0.0324	0.0300	108	80-120		
4-Bromofluorobenzene		0.0295	0.0300	98	80-120		
Lab Batch #: 910227	Sample: 460211-001 S / MS	B Bate	h: ¹ Matrix	k: Soil			
Units: mg/kg	Date Analyzed: 03/29/13 20:57	SURROGATE RECOVERY STUDY					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	Anarytes	95.1	100	95	70-135		
o-Terphenyl		60.3	50.0	121	70-135		
Lab Batch #: 910363	Sample: 460328-009 S / MS	Bate	h: ¹ Matrix	soil			
Units: mg/kg	Date Analyzed: 04/01/13 19:17		RROGATE R		STUDY		
		Amount	True		Control		
IPH	By SW8015 Mod Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags	
1-Chlorooctane		96.6	99.6	97	70-135		
o-Terphenyl		54.3	49.8	109	70-135		
Lab Batch #: 910224	Sample: 460211-013 SD / N	ASD Bate	h: 1 Matrix	x: Soil	1		
Units: mg/kg	Date Analyzed: 03/29/13 14:42	SU	RROGATE R	ECOVERY S	STUDY		
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	Analytes	0.0202	0.0200		80.120		
4-Bromofluorobenzene		0.0303	0.0300	101	80-120 80-120		
				-	00-120		
Lab Batch #: 910227	Sample: 460211-001 SD / N						
Units: mg/kg	Date Analyzed: 03/29/13 21:24	<u> </u>	RROGATE R	ECOVERYS			
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	·	103	100	103	70-135		
		105	100	105	,0155		

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: SUGS Historical Grobe 4" 1RP-1940

Work Orders: 460211	,	Project ID:							
Lab Batch #: 910363	Sample: 460328-009 SD / N	MSD Bate	h: ¹ Matrix:	Soil					
Units: mg/kg	Date Analyzed: 04/01/13 19:42	SU	RROGATE RI	ROGATE RECOVERY STUDY					
ТРН І	3y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		95.1	100	95	70-135				
o-Terphenyl		56.2	50.1	112	70-135				

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: SUGS Historical Grobe 4" 1RP-1940

Work Order #: 460211	Project ID:										
Analyst: KEB	Da		ed: 03/29/201	3	Date Analyzed: 03/29/2013						
Lab Batch ID: 910224 Sample: 635902-1-E	BKS	Batcl	n#: 1		Matrix: Solid						
Units: mg/kg		BLAN	K/BLANK S	SPIKE / E	BLANK S	PIKE DUPI	LICATE I	RECOVE	ERY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Benzene	<0.000998	0.0998	0.0968	97	0.0996	0.0817	82	17	70-130	35	
Toluene	< 0.00200	0.0998	0.0942	94	0.0996	0.0851	85	10	70-130	35	
Ethylbenzene	<0.000998	0.0998	0.0880	88	0.0996	0.0760	76	15	71-129	35	
m_p-Xylenes	< 0.00200	0.200	0.180	90	0.199	0.154	77	16	70-135	35	
o-Xylene	<0.000998	0.0998	0.0957	96	0.0996	0.0827	83	15	71-133	35	
Analyst: AMB	Da	ate Prepar	ed: 04/01/201	3			Date A	nalyzed: ()	4/01/2013		
Lab Batch ID: 910455 Sample: 636033-1-E	BKS	Batcl	n#: 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / E	BLANK S	PIKE DUPI	LICATE I	RECOVE	ERY STUD	Y	
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	<2.00	50.0	49.0	98	50.0	49.1	98	0	80-120	20	

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



Project Name: SUGS Historical Grobe 4" 1RP-1940

Work Order #: 460211								ject ID:			
Analyst: AMB	Da	ate Prepar	Date Analyzed: 04/02/2013								
Lab Batch ID: 910467 Sample: 636056-1-E	BKS	Batcl	n#: 1					Matrix: S	Solid		
Units: mg/kg		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	<2.00	50.0	48.2	96	50.0	48.3	97	0	80-120	20	
Analyst: KEB	D	ate Prepar	ed: 03/29/201	3			Date A	nalyzed: ()3/29/2013		
Lab Batch ID: 910227 Sample: 635905-1-E	BKSBatch #: 1Matrix: Solid										
Units: ^{mg/kg}	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	972	97	1000	985	99	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1060	106	1000	1070	107	1	70-135	35	
Analyst: KEB	D	ate Prepar	ed: 04/01/201	3			Date A	nalyzed: (04/01/2013		
Lab Batch ID: 910363 Sample: 635984-1-E	BKS	Batch	n#: 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK S	SPIKE / E	BLANK S	SPIKE DUPI	JCATE 1	RECOVI	ERY STUD	Y	
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
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	929	93	1000	910	91	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	1030	103	1000	1010	101	2	70-135	35	

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



Form 3 - MS Recoveries



Project Name: SUGS Historical Grobe 4" 1RP-1940

Work Order #: 460211								
Lab Batch #: 910455				Pro	oject ID	•		
Date Analyzed: 04/01/2013	Date P	repared: 04/0	1/2013	Analyst: AMB				
QC- Sample ID: 459989-001 S		Batch #: 1		Ν	Matrix: S	oil		
Reporting Units: mg/kg		MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY	
Inorganic Anions by EPA 300		Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag	
Analytes		[A]	[B]					
Chloride		437	250	689	101	80-120		
Lab Batch #: 910455								
Date Analyzed: 04/02/2013	Date Prepared: 04/01/2013			Analyst: AMB				
QC- Sample ID: 460076-006 S	Batch #: 1			Ν	Matrix: S	oil		
Reporting Units: mg/kg		MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY	
Inorganic Anions by EPA 300		Parent Sample Result [A]	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag	
Analytes			[B]					
Chloride		736	1010	1730	98	80-120		
Lab Batch #: 910467								
Date Analyzed: 04/02/2013	Date P	repared: 04/0	1/2013	А	nalyst: A	MB		
QC- Sample ID: 460211-010 S		Batch #: 1		Ν	Matrix: S	oil		
Reporting Units: mg/kg		MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY	
Inorganic Anions by EPA 300		Parent Sample	Spike	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag	
Analytes		Result [A]	Added [B]		[12]	/010		

Matrix Spike Percent Recovery $[D] = 100^{*}(C-A)/B$ Relative Percent Difference $[E] = 200^{*}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: SUGS Historical Grobe 4" 1RP-1940

Work Order #: 460211						Project I	D:				
Lab Batch ID: 910224 Date Analyzed: 03/29/2013	QC- Sample ID: Date Prepared:				tch #: alyst:	1 Matri KEB	x: Soil				
Reporting Units: mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00102	0.102	0.0757	74	0.102	0.0720	71	5	70-130	35	
Toluene	< 0.00204	0.102	0.0736	72	0.102	0.0713	70	3	70-130	35	
Ethylbenzene	<0.00102	0.102	0.0629	62	0.102	0.0603	59	4	71-129	35	X
m_p-Xylenes	<0.00204	0.204	0.131	64	0.203	0.123	61	6	70-135	35	X
o-Xylene	<0.00102	0.102	0.0732	72	0.102	0.0713	70	3	71-133	35	X
Lab Batch ID: 910227 Date Analyzed: 03/29/2013 Reporting Units: mg/kg	QC- Sample ID: 460211-001 S Batch #: 1 Matrix: Soil Date Prepared: 03/29/2013 Analyst: KEB MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result		Spike	Duplicate Spiked Sample	Spiked	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	Sample %R [D]	Added [E]	Result [F]	Dup. %R [G]	%	%R	%RPD	riag
C6-C12 Gasoline Range Hydrocarbons	<16.2	1080	1010	94	1080	1020	94	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	1120	104	1080	1140	106	2	70-135	35	
Lab Batch ID: 910363 Date Analyzed: 04/01/2013	QC- Sample ID: Date Prepared:				tch #: alyst:	1 Matri KEB	x: Soil				
Reporting Units: mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	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
C6-C12 Gasoline Range Hydrocarbons	<15.5	1030	963	93	1040	962	93	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	21.2	1030	1080	103	1040	1080	102	0	70-135	35	Ì

Matrix Spike Percent Recovery $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD = $200^{\circ}(C-F)/(C+F)$ 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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit


Sample Duplicate Recovery



Project Name: SUGS Historical Grobe 4" 1RP-1940

Work Order #: 460211

Lab Batch #: 910208			- -	Project I	D:	
Date Analyzed: 03/29/2013 14:00	Date Prepar	ed: 03/29/2013	Anal	yst: WRU		
QC- Sample ID: 460200-001 D	Batch	# : 1	Mat	rix: Soil		
Reporting Units: %		SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		. ,	[B]			
Percent Moisture		1.33	1.22	9	20	

Spike Relative Difference RPD 200 * (B-A)/(B+A) All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

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XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- MonahanAcceptable Temperature Range: 0 - 6 degCDate/ Time Received: 03/28/2013 04:48:00 PMAir and Metal samples Acceptable Range: AmbientWork Order #: 460211Temperature Measuring device used :

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.5	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received?	Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	Yes	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Date:

Checklist reviewed by:

Date: _____

Analytical Report 460389

for

Southern Union Gas Services- Monahans

Project Manager: Camille Bryant SUGS Historical Grobe 4" 1 RP-1940

09-APR-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Lakeland: Florida (E84098) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



09-APR-13

TNI

Project Manager: **Camille Bryant Southern Union Gas Services- Monahans** 801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): 460389 SUGS Historical Grobe 4" 1 RP-1940 Project Address: Lea County, NM

Camille Bryant:

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) 460389. 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. 460389 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully

Nicholas Straccione 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 - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 460389



Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical Grobe 4" 1 RP-1940

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South S/W-2 @ 9'	S	03-26-13 09:30		460389-001
South S/W-3 @ 9'	S	03-26-13 11:00		460389-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans Project Name: SUGS Historical Grobe 4" 1 RP-1940



Project ID: Work Order Number(s): 460389 Report Date: 09-APR-13 Date Received: 04/02/2013

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None



Project Id: Contact: Camille Bryant Project Location: Lea County, NM

Certificate of Analysis Summary 460389

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Grobe 4" 1 RP-1940



Date Received in Lab: Tue Apr-02-13 10:00 am

Report Date: 09-APR-13

Project Manager: Nicholas Straccione

						-	-j8	
	Lab Id:	460389-	001	460389-0	02			
	Field Id:	South S/W-	2 @ 9'	South S/W-3	@ 9'			
Analysis Requested	Depth:							
	Matrix:	SOIL	,	SOIL				
	Sampled:	Mar-26-13	09:30	Mar-26-13	11:00			
BTEX by EPA 8021B	Extracted:	Apr-08-13	09:20	Apr-08-13 ()9:20			
	Analyzed:	Apr-08-13		Apr-08-13 1				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene		ND			0.00106			
Toluene		ND	0.00220	ND	0.00212			
Ethylbenzene		ND	0.00110	ND	0.00106			
m_p-Xylenes		ND	0.00220	ND	0.00212			
o-Xylene		ND	0.00110	ND	0.00106			
Total Xylenes		ND	0.00110	ND	0.00106			
Total BTEX		ND	0.00110	ND	0.00106			
Inorganic Anions by EPA 300/300.1	Extracted:	Apr-03-13	10:00	Apr-03-13	0:00			
	Analyzed:	Apr-04-13	08:23	Apr-04-13 (08:44			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		201	4.00	2.56	2.00			
Percent Moisture	Extracted:							
	Analyzed:	Apr-02-13	17:00	Apr-02-13	7:00			
	Units/RL:	%	RL	%	RL			
Percent Moisture		9.98	1.00	6.67	1.00			
TPH By SW8015 Mod	Extracted:	Apr-02-13	13:25	Apr-02-13 1	3:25			
	Analyzed:	Apr-02-13	15:39	Apr-02-13	6:04			
	Units/RL:	mg/kg	RL	mg/kg	RL			
C6-C12 Gasoline Range Hydrocarbons		ND	16.6	ND	16.1			
C12-C28 Diesel Range Hydrocarbons		18.1	16.6	17.0	16.1			
C28-C35 Oil Range Hydrocarbons		ND	16.6	ND	16.1			
Total TPH		18.1	16.6	17.0	16.1			

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

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Nicholas Straccione Project Manager

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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 quantiation 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
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Final 1.000



Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Grobe 4" 1 RP-1940

'ork Orders: 460389 Lab Batch #: 910536	, Sample: 460389-001 / SMP	Batcl	Project I n: ¹ Matrix			
Units: mg/kg	Date Analyzed: 04/02/13 15:39		RROGATE R		STUDY	
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		98.2	99.8	98	70-135	
o-Terphenyl		51.8	49.9	104	70-135	
Lab Batch #: 910536	Sample: 460389-002 / SMP	Batch	h: ¹ Matrix	:Soil		
Units: mg/kg	Date Analyzed: 04/02/13 16:04	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	1 mary tes	99.1	100	99	70-135	
o-Terphenyl		51.5	50.0	103	70-135	
Lab Batch #: 910870	Sample: 460389-001 / SMP	Batch	h: ¹ Matrix	:Soil	1	
Units: mg/kg	Date Analyzed: 04/08/13 12:49		RROGATE R	ECOVERY S	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0312	0.0300	104	80-120	
4-Bromofluorobenzene		0.0307	0.0300	102	80-120	
Lab Batch #: 910870	Sample: 460389-002 / SMP	Batch	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 04/08/13 13:06	SU	RROGATE R	ECOVERY S	STUDY	
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0261	0.0300	87	80-120	
4-Bromofluorobenzene		0.0302	0.0300	101	80-120	
Lab Batch #: 910536	Sample: 636053-1-BLK / BI				~	
Units: mg/kg	Date Analyzed: 04/02/13 14:48	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	1 11111 J U.S	99.4	100	99	70-135	
		//.T	100	1 //	,0155	

* 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 / BAll results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Grobe 4" 1 RP-1940

ork Orders : 460389 Lab Batch #: 910870	, Sample: 636306-1-BLK / BI	K D. 4	Project I h: ¹ Matrix			
	ŕ		RROGATE R		STUDY	
Units: mg/kg BTE2	Date Analyzed: 04/08/13 11:11 X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0258	0.0300	86	80-120	
4-Bromofluorobenzene		0.0324	0.0300	108	80-120	
Lab Batch #: 910536	Sample: 636053-1-BKS / BH	KS Bate	ch: ¹ Matrix	:Solid		
Units: mg/kg	Date Analyzed: 04/02/13 13:57	SU	RROGATE R	ECOVERYS	STUDY	
TPH]	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		95.7	100	96	70-135	
o-Terphenyl		59.9	50.0	120	70-135	
Lab Batch #: 910870	Sample: 636306-1-BKS / BF	KS Bate	h: ¹ Matrix	:Solid	1	
Units: mg/kg	Date Analyzed: 04/08/13 10:22		RROGATE R	-	STUDY	
BTEZ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
	Analytes			[D]		
1,4-Difluorobenzene		0.0324	0.0300	108	80-120	
4-Bromofluorobenzene		0.0312	0.0300	104	80-120	
Lab Batch #: 910536	Sample: 636053-1-BSD / BS					
Units: mg/kg	Date Analyzed: 04/02/13 14:22	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		96.0	99.8	96	70-135	
o-Terphenyl		61.3	49.9	123	70-135	
Lab Batch #: 910870	Sample: 636306-1-BSD / BS	SD Bate	ch: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 04/08/13 10:55	SU	RROGATE R	ECOVERYS	STUDY	
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorobenzene	•	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene			1	1	1	

* 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 / BAll results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Grobe 4" 1 RP-1940

Vork Orders : 460389 Lab Batch #: 910536	Sample: 460389-001 S / MS	S Batcl	Project I h: 1 Matrix			
Units: mg/kg	Date Analyzed: 04/02/13 16:55		RROGATE R		STUDY	
	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		95.0	99.7	95	70-135	
o-Terphenyl		54.9	49.9	110	70-135	
Lab Batch #: 910870	Sample: 460525-001 S / M	S Batcl	h: ¹ Matrix	:Soil		
Units: mg/kg	Date Analyzed: 04/08/13 16:06	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorobenzene	Analytes	0.0220	0.0200		00.120	
4-Bromofluorobenzene		0.0320	0.0300	107	80-120 80-120	
Lab Batch #: 910536	Sample: 460389-001 SD / N				00 120	
	1		RROGATE R		STUDV	
Units: mg/kg	Date Analyzed: 04/02/13 17:20 By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
	Analytes		[D]	[D]	701	
1-Chlorooctane		96.4	99.6	97	70-135	
o-Terphenyl		55.7	49.8	112	70-135	
Lab Batch #: 910870	Sample: 460525-001 SD / N	MSD Batcl	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 04/08/13 16:23	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0322	0.0300	107	80-120	
4-Bromofluorobenzene		0.0279	0.0300	93	80-120	

* 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 / BAll results are based on MDL and validated for QC purposes.





Project Name: SUGS Historical Grobe 4" 1 RP-1940

Work Order #: 460389							Pro	ject ID:			
Analyst: KEB	Da	ate Prepar	ed: 04/08/201	3			Date A	nalyzed: ()	4/08/2013		
Lab Batch ID: 910870 Sample: 636306-1-B	KS	Batcl	n #: 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / F	BLANK S	SPIKE DUPI	LICATE I	RECOVE	ERY STUD	Y	
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.0923	92	0.0992	0.0953	96	3	70-130	35	
Toluene	< 0.00200	0.100	0.0946	95	0.0992	0.0962	97	2	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.0820	82	0.0992	0.0844	85	3	71-129	35	
m_p-Xylenes	< 0.00200	0.200	0.170	85	0.198	0.174	88	2	70-135	35	
o-Xylene	< 0.00100	0.100	0.0938	94	0.0992	0.0951	96	1	71-133	35	
Analyst: AMB	Da	ate Prepar	ed: 04/03/201	3			Date A	nalyzed: ()	04/04/2013	·	
Lab Batch ID: 910763 Sample: 636228-1-B	KS	Batcl	h #: 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK S	SPIKE / F	BLANK S	SPIKE DUPI	LICATE 1	RECOVE	ERY STUD	Y	
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	<2.00	50.0	48.8	98	50.0	49.1	98	1	80-120	20	

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





Project Name: SUGS Historical Grobe 4" 1 RP-1940

Work Order #: 460389 Analyst: KEB		Da	ate Prepar	ed: 04/02/201	3				ject ID: nalyzed: ()	04/02/2013		
Lab Batch ID: 910536	Sample: 636053-1-B	KS	Batc	h #: 1					Matrix: S	Solid		
Units: mg/kg	[BLAN	K /BLANK S	SPIKE / E	BLANK S	SPIKE DUPI	ICATE	RECOVE	ERY STUD	Y	
TPH By SW80	15 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes			[B]	[C]	[D]	[E]	Result [F]	[G]			ľ	
C6-C12 Gasoline Range Hydroca	arbons	<15.0	1000	920	92	998	931	93	1	70-135	35	
C12-C28 Diesel Range Hydrocar	rbons	<15.0	1000	1030	103	998	1040	104	1	70-135	35	

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



Form 3 - MS Recoveries



Project Name: SUGS Historical Grobe 4" 1 RP-1940

Work Order #: 460389 Lab Batch #: 910763 Date Analyzed: 04/04/2013	Date Prepared: 04/03/2013	Project ID Analyst: .				
QC- Sample ID: 460328-001 S Reporting Units: mg/kg	Batch #: 1	Matrix:	Matrix: Soil TRIX SPIKE RECOVERY STUI			
Inorganic Anions by EPA 300	Parent Sample Spike Result Added	Spiked Sample Result %R [C] [D]	Control Limits %R	Flag		
Analytes	[A] [B]					
Chloride	34.8 500	529 99	80-120			

Matrix Spike Percent Recovery $[D] = 100^{*}(C-A)/B$ Relative Percent Difference $[E] = 200^{*}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: SUGS Historical Grobe 4" 1 RP-1940

Work Order # : 460389						Project II	D:				
Lab Batch ID: 910870	QC- Sample ID:	460525	-001 S	Ba	tch #:	1 Matrix	x: Soil				
Date Analyzed: 04/08/2013	Date Prepared:	04/08/2	013	An	alyst:	KEB					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Benzene	< 0.00106	0.106	0.0958	90	0.106	0.0863	81	10	70-130	35	
Toluene	<0.00212	0.106	0.0984	93	0.106	0.0827	78	17	70-130	35	
Ethylbenzene	< 0.00106	0.106	0.0884	83	0.106	0.0749	71	17	71-129	35	
m_p-Xylenes	<0.00212	0.212	0.184	87	0.211	0.153	73	18	70-135	35	
o-Xylene	< 0.00106	0.106	0.0971	92	0.106	0.0787	74	21	71-133	35	
Lab Batch ID: 910536	QC- Sample ID:	460389	-001 S	Ba	tch #:	1 Matrix	k: Soil				
Date Analyzed: 04/02/2013	Date Prepared:	04/02/2	013	An	alyst:	KEB					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result	Spiked Sample %R	Spike Added	Duplicate Spiked Sample	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	Added [B]	[C]	%K [D]	E]	Result [F]	%R [G]	-/0	70K	70KPD	
C6-C12 Gasoline Range Hydrocarbons	<16.6	1110	1060	95	1110	1060	95	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	18.1	1110	1180	105	1110	1170	104	1	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/BRelative Percent Difference RPD = 200*(C-F)/(C+F) Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: SUGS Historical Grobe 4" 1 RP-1940

Work Order #: 460389

Lab Batch #: 910482				Project I	D:	
Date Analyzed: 04/02/2013 17:00	Date Prepar	ed: 04/02/2013	Ana	lyst: WRU		
QC- Sample ID: 460328-001 D	Batch	n#: 1	Mat	rix: Soil		
Reporting Units: %		SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[11]	[B]			
Percent Moisture		5.17	5.11	1	20	

Spike Relative Difference RPD 200 * (B-A)/(B+A) All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

CHAW OF CUSTOPY RECORD AND AMALYSIS RECUEST 12000 weet - 20 East 12000			Lallicum 41	multi Burget 4/2/3		Special Instructions:									South S/W-3 @ 9'	South S/W-2 @ 9'	LAB # (lab use only) FIELD CODE	ORDER #: 460389		Sampler Signature:	Telephone No: #32.520.7720	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name Nova Safety and Environmental	Project Manager: Camille Bryant	The Environmental Lab of Texas	Xenco Laboratories
CHAIN OF CUSTODY RECORD AND AMALYSIS REQUEST Note: 42::2001 Viet Colling in Collin			Time 9:15				-												C					ntal	Bryant		• • • •
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CHAIN OF CUSTODY RECORD AND AMALYSIS REQUEST 12000 West L20 East Failed State 12000 West L20 East Failed State Project Name State State		120	Johnard by	eceived by:											3/26/2013	3/26/2013	Date Sampled										
CHAIN OF CUSTOPY RECORD AND AMALYSIS REQUEST 13600 Weet Lo0 East Phone: 423-653-1900 Odessa, Toxas 7976 Project Name: Sugar All Assistance Project Name: Sugar All Assistance Sugar All Assistance Chromotion & at Containers Project Name: SUGS Historical Group 4" HPP-1940 Project Name: SUGS Historical Group 4" HPP-1940 Project Name: SUGS Historical Group 4" HPP-1940 Post Hame: Sugar All Assistance Project Name: SUGS Historical Group 4" HPP-1940 Post Hame: Sugar All Assistance Project Name: Sugar All Assistance Post Hame: Sugar All Assistance Project Name: Sugar All Assistance Project Name: Sugar All Assistance Project Name: Sugar All Assistance Post Hame: Sugar All Assistance Project Name: Project Name: Project Name: Project Name: Sugar All Assistance Project Name: Project Name: Project Name: Project Name: Project Name: Sugar All Assistance Project Name: Project Name: Project Name: Project Name: Project Name: Project Name:			an Rep			-									11:00	9:30	Time Sampled			e-mai	Fax No						
CHAIM OF CUSTODY RECORD AND AMALYSIS REQUEST Texas 79766 Phone: 432-663-1900 Faz: 422-663-1713 Froject Name: SUGS Historical Grobe 4" 1RP-1940 Project #:		B	13 A	R													Field Filtered]									
CHAIM OF CUSTODY RECORD AND AMALYSIS REQUEST Texas 79766 Phone: 432-663-1900 Faz: 422-663-1713 Froject Name: SUGS Historical Grobe 4" 1RP-1940 Project #:		30	N.					1							-	_	Total #. of Containers				432	-					
CHAIM OF CUSTODY RECORD AND AMALYSIS REQUEST Texas 79766 Phone: 432-663-1900 Faz: 422-663-1713 Froject Name: SUGS Historical Grobe 4" 1RP-1940 Project #:	*	2	- -						· · ·		<u> </u>			. 	×	×	·	- 7	5	<u>م</u>	520	- · ·				126(Ode	
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XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 04/02/2013 10:00:00 AM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 460389	Temperature Measuring device used :

S	Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?		0	
#2 *Shipping container in good condition?		Yes	
#3 *Samples received on ice?		Yes	
#4 *Custody Seals intact on shipping contain	ner/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?		Yes	
#6 *Custody Seals Signed and dated?		Yes	
#7 *Chain of Custody present?		Yes	
#8 Sample instructions complete on Chain of	of Custody?	Yes	
#9 Any missing/extra samples?		No	
#10 Chain of Custody signed when relinquis	hed/ received?	Yes	
#11 Chain of Custody agrees with sample la	ibel(s)?	Yes	
#12 Container label(s) legible and intact?		Yes	
#13 Sample matrix/ properties agree with Cl	nain of Custody?	Yes	
#14 Samples in proper container/ bottle?		Yes	
#15 Samples properly preserved?		Yes	
#16 Sample container(s) intact?		Yes	
#17 Sufficient sample amount for indicated t	est(s)?	Yes	
#18 All samples received within hold time?		Yes	
#19 Subcontract of sample(s)?		Yes	
#20 VOC samples have zero headspace (le	ss than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNO3	3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaA	sO2+NaOH, ZnAc+NaOH?	Yes	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____

Analytical Report 468394

for

Regency Gas

Project Manager: Rachel Johnson

SUGS Historical Grobe 4"

1RP-1940

14-AUG-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-13-14-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Lakeland: Florida (E84098) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



14-AUG-13



Project Manager: **Rachel Johnson Regency Gas** 801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): **468394 SUGS Historical Grobe 4''** Project Address: Lea County, New Mexico

Rachel Johnson:

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) 468394. 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. 468394 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully. mshoah

Kelsey Brooks Project Manager

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Sample Cross Reference 468394



Regency Gas, Monahans, TX

SUGS Historical Grobe 4"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Excavation West S/W-1A @ 18'	S	08-12-13 15:15	- 18 ft	468394-001





Client Name: Regency Gas Project Name: SUGS Historical Grobe 4''

Project ID: *1RP-1940* Work Order Number(s): *468394* Report Date:14-AUG-13Date Received:08/13/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 468394

Regency Gas, Monahans, TX

Project Name: SUGS Historical Grobe 4"



Date Received in Lab: Tue Aug-13-13 09:26 am Report Date: 14-AUG-13 Project Manager: Kelsey Brooks

Project Id: 1RP-1940 Contact: Rachel Johnson Project Location: Lea County, New Mexico

	Lab Id:	468394-001			
Analysis Dequested	Field Id:	South Excavation West S	/W-		
Analysis Requested	Depth:	18 ft			
	Matrix:	SOIL			
	Sampled:	Aug-12-13 15:15			
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-13-13 10:00			
SUB: TX104704215	Analyzed:	Aug-13-13 19:45			
	Units/RL:	mg/kg R			
Chloride		398 20	0		
Percent Moisture	Extracted:				
	Analyzed:	Aug-13-13 10:55			
	Units/RL:	% R	_		
Percent Moisture		5.01 1.0	0		

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

Huns Roah

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
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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LOQ Limit of Quantitation

Phone

(281) 240-4200

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(813) 620-2000 (432) 563-1800

(770) 449-8800

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2505 North Falkenburg Rd, Tampa, FL 33619	
12600 West I-20 East, Odessa, TX 79765	
6017 Financial Drive, Norcross, GA 30071	
3725 E. Atlanta Ave, Phoenix, AZ 85040	

Final 1.000

Fax

(281) 240-4280

(214) 351-9139

(210) 509-3335 (813) 620-2033

(432) 563-1713

(770) 449-5477





Project Name: SUGS Historical Grobe 4"

Work Order #: 468394 Analyst: AMB		Da	ate Prepar	red: 08/13/201	3					RP-1940 8/13/2013		
Lab Batch ID: 920596	Sample: 642510-1-B	KS	Batcl	h #: 1					Matrix: S	olid		
Units: mg/kg			BLAN	K /BLANK S	SPIKE / E	BLANK S	PIKE DUPI	ICATE	RECOVE	CRY STUD	Y	
Inorganic Anions by E	CPA 300/300.1	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes			[B]	[C]	[D]	[E]	Result [F]	[G]				
Chloride		49.4	50.0	48.7	97	50.0	49.2	98	1	90-110	20	

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



Form 3 - MS Recoveries



Project Name: SUGS Historical Grobe 4"

Work Order #: 468394 Lab Batch #: 920596 Date Analyzed: 08/13/2013	Date Prepared: 08/13/2013		oject ID: Analyst: A	1RP-1940 MB	
QC- Sample ID: 468394-001 S	Batch #: 1	1	Matrix: So	oil	
Reporting Units: mg/kg	MATRIX / M	ATRIX SPIKE	RECOV	VERY STU	DY
Inorganic Anions by EPA 300	Parent Sample Spike Result Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[A] [B]		[D]		
Chloride	398 500	960	112	80-120	

Matrix Spike Percent Recovery $[D] = 100^{*}(C-A)/B$ Relative Percent Difference $[E] = 200^{*}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit





Project Name: SUGS Historical Grobe 4"

Work Order #: 468394

Lab Batch #: 920593				Project I	D: ^{1RP-194}	0
Date Analyzed: 08/13/2013 10:55	Date Prepar	ed: 08/13/2013	Ana	lyst: WRU		
QC- Sample ID: 468394-001 D	Batch	n#: 1	Mat	rix: Soil		
Reporting Units: %		SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte			[B]			
Percent Moisture		5.01	5.06	1	20	

Spike Relative Difference RPD 200 * (B-A)/(B+A) All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

Refinquished by:	Relinquishe	Relinquished by	Special							LAB # (lab use only)	ORDER #:	(lab use only)							The Env			
shed by: U Date	the Report TI	Hut Ar Rick Pena 813	Special Instructions:						South Excavation West S/W-1A @ 18'	FIELD CODE	* 1622H	-	Sampler Signature: Com alle by	Telephone No: 432.520.7720	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name Nova Safety and Environmental	Project Manager: Ca	The Environmental Lab of Texas			
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ecei	ered It Rep. UPS	VOCs Free of Headspace? Labels on container(s) Custody seals on cooler(s) Custody seals on cooler(s) Sample Hand Delivered by Sampler/Client Rep. ?			+		+ +		-	BTEX 8021B/5030 or BTEX 8	260	- 3				Cou		tori	32-5			
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	3						IT			Standard TAT			- 17					0				

Final 1.000



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Prelogin/Nonconformance Report- Sample Log-In

Client: Regency Gas	Acceptable Temperature Range: 0 - 6 degC							
Date/ Time Received: 08/13/2013 09:26:00 AM	Air and Metal samples Acceptable Range: Ambier							
Work Order #: 468394	Temperature Measuring device used :							
Sample Recei	pt Checklist Comments							
#1 *Temperature of cooler(s)?	4.5							
#2 *Shipping container in good condition?	Yes							
#3 *Samples received on ice?	Yes							
#4 *Custody Seals intact on shipping container/ cooler?	Yes							
#5 Custody Seals intact on sample bottles?	Yes							
#6 *Custody Seals Signed and dated?	Yes							
#7 *Chain of Custody present?	Yes							
#8 Sample instructions complete on Chain of Custody?	Yes							
#9 Any missing/extra samples?	No							
#10 Chain of Custody signed when relinquished/ received?	Yes							
#11 Chain of Custody agrees with sample label(s)?	Yes							
#12 Container label(s) legible and intact?	Yes							
#13 Sample matrix/ properties agree with Chain of Custody?	? Yes							
#14 Samples in proper container/ bottle?	Yes							
#15 Samples properly preserved?	Yes							
#16 Sample container(s) intact?	Yes							
#17 Sufficient sample amount for indicated test(s)?	Yes							
#18 All samples received within hold time?	Yes							
#19 Subcontract of sample(s)?	Yes							
#20 VOC samples have zero headspace (less than 1/4 inch	bubble)? N/A							
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	N/A							
#22 >10 for all samples preserved with NaAsO2+NaOH, Zn	Ac+NaOH? N/A							

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

Analyst:

PH Device/Lot#:

 Checklist completed by:
 Mussian formula
 Date:
 08/13/2013

 Checklist reviewed by:
 Mussian formula
 Date:
 08/13/2013

 Kelsey Brooks
 Date:
 08/13/2013

Analytical Report 466416

for Southern Union Gas Services- Monahans

Project Manager: Camille Bryant

Grobe 4'' -1RP-1940

16-JUL-13

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-13-14-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Lakeland: Florida (E84098) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



16-JUL-13



Project Manager: **Camille Bryant Southern Union Gas Services- Monahans** 801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): 466416 Grobe 4'' -1RP-1940 Project Address: Lea County, New Mexico

Camille Bryant:

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) 466416. 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. 466416 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully. mstroah

Kelsey Brooks Project Manager

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Sample Cross Reference 466416



Southern Union Gas Services- Monahans, Monahans, TX

Grobe 4" -1RP-1940

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Excavation, SSW-1@18'	S	07-09-13 13:00	- 18 ft	466416-001
South Excavation, SSW-2@18'	S	07-09-13 13:05	- 18 ft	466416-002
South Excavation, SSW-3@18'	S	07-09-13 13:10	- 18 ft	466416-003
South Excavation, ESW-1@18'	S	07-09-13 13:15	- 18 ft	466416-004
South Excavation, WSW-1@18'	S	07-09-13 13:20	- 18 ft	466416-005
South Excavation, NSW-1@18'	S	07-09-13 13:25	- 18 ft	466416-006
South Excavation, NSW-2@18'	S	07-09-13 13:30	- 18 ft	466416-007
South Excavation, Floor-1@19'	S	07-09-13 13:35	- 19 ft	466416-008
South Excavation, Floor-2@19'	S	07-09-13 13:40	- 19 ft	466416-009
North Excavation, ESW@18'	S	07-09-13 14:00	- 18 ft	466416-010
North Excavation, NSW@18'	S	07-09-13 14:05	- 18 ft	466416-011
North Excavation, WSW@18'	S	07-09-13 14:10	- 18 ft	466416-012
North Excavation, SSW@18'	S	07-09-13 14:15	- 18 ft	466416-013
North Excavation, Floor@18'	S	07-09-13 14:20	- 19 ft	466416-014



CASE NARRATIVE



Client Name: Southern Union Gas Services- Monahans Project Name: Grobe 4''-1RP-1940

Project ID: Work Order Number(s): 466416 Report Date: 16-JUL-13 Date Received: 07/10/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-918517 Inorganic Anions by EPA 300/300.1 E300

Batch 918517, Chloride recovered above QC limits in the Matrix Spike. Samples affected are: 466416-013, -002, -009, -007, -010, -011, -008, -001, -006, -014, -003, -004, -005, - 012.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Project Id:

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Certificate of Analysis Summary 466416

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Grobe 4" -1RP-1940



Date Received in Lab: Wed Jul-10-13 09:50 am

Report Date: 16-JUL-13

Project Manager: Kelsey Brooks

	Lab Id:	466416-0	001	466416-0	02	466416-	003	466416-	004	466416-	005	466416-	006	
Analysis Requested	Field Id:	South Excavation	, SSW-1@	South Excavation,	SSW-2@	South Excavation	, SSW-3@	South Excavation	, ESW-1@	South Excavation	i, WSW-1@	outh Excavation	n, NSW-1@1	
Anuiysis Kequesieu	Depth:	Depth: 18 ft		18 ft		18 ft		18 ft		18 ft		18 ft		
	Matrix:	SOIL	,	SOIL		SOIL		SOIL		SOIL		SOIL		
	Sampled:	Jul-09-13	13:00	Jul-09-13 1	3:05	Jul-09-13	13:10	Jul-09-13	13:15	Jul-09-13	13:20	Jul-09-13	13:25	
BTEX by EPA 8021B	Extracted:	Jul-11-13	Jul-11-13 15:45		Jul-11-13 15:45		Jul-11-13 15:45		Jul-11-13 15:45		Jul-11-13 15:45		Jul-11-13 15:45	
SUB: TX104704215	Analyzed:	Jul-12-13	13:36	Jul-11-13 2	1:24	Jul-11-13	21:40	Jul-11-13	21:56	Jul-11-13	22:12	Jul-11-13	22:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Benzene		ND	0.000994	ND	0.000996		0.000998	ND	0.00100	ND	0.000998	ND	0.000994	
Toluene		ND	0.00199	112	0.00199		0.00200	ND	0.00200	ND	0.00200	ND	0.00199	
Ethylbenzene		0.00124	0.000994	ND	0.000996	ND	0.000998	ND	0.00100	ND	0.000998	0.00633	0.000994	
m,p-Xylenes		ND	0.00199		0.00199	ND	0.00200	ND	0.00200	ND	0.00200	0.00512	0.00199	
o-Xylene		-	0.000994	ND	0.000996		0.000998	ND	0.00100		0.000998	ND	0.000994	
Total Xylenes		ND	0.000994	ND	0.000996	ND	0.000998	ND	0.00100	ND	0.000998	0.00512	0.000994	
Total BTEX		0.00124	0.000994	ND	0.000996	ND	0.000998	ND	0.00100	ND	0.000998	0.0115	0.000994	
Inorganic Anions by EPA 300/300.1	Extracted:	<i>I:</i> Jul-12-13 10:00		Jul-12-13 10:00		Jul-12-13 10:00		Jul-12-13 10:00		Jul-12-13 10:00		Jul-12-13 10:00		
SUB: TX104704215	Analyzed:	Jul-12-13 10:39		Jul-12-13 11:27		Jul-12-13 11:50		Jul-12-13 12:14		Jul-12-13 12:38		Jul-12-13 13:01		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Chloride		339	10.0	380	20.0	408	10.0	487	20.0	677	40.0	688	20.0	
Percent Moisture	Extracted:													
	Analyzed:	Jul-10-13 15:05		Jul-10-13 15:05		Jul-10-13 15:05		Jul-10-13 15:05		Jul-10-13 15:05		Jul-10-13 15:05		
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL	
Percent Moisture		2.97	1.00	6.32	1.00	9.73	1.00	13.1	1.00	1.33	1.00	1.12	1.00	
TPH By SW8015 Mod Extracted:		Jul-10-13 14:00		Jul-10-13 14:00		Jul-16-13 10:54		Jul-10-13 14:00		Jul-10-13 14:00		Jul-16-13 10:57		
SUB: TX104704215	Analyzed:	Jul-10-13 20:08		Jul-10-13 20:34		Jul-16-13 13:28		Jul-10-13 20:59		Jul-10-13 21:24		Jul-16-13 13:50		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
C6-C12 Gasoline Range Hydrocarbons		ND	15.4	ND	16.0	ND	16.5	ND	17.2	ND	15.2	ND	15.1	
C12 - C28 Diesel Range Hydrocarbons		ND	15.4	ND	16.0	ND	16.5	ND	17.2	ND	15.2	ND	15.1	
C28-C35 Oil Range Hydrocarbons		ND	15.4	ND	16.0	ND	16.5	ND	17.2	ND	15.2	ND	15.1	
Total TPH 1005		ND	15.4	ND	16.0	ND	16.5	ND	17.2	ND	15.2	ND	15.1	

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

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Kelsey Brooks Project Manager

Page 5 of 25


Project Id:

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Certificate of Analysis Summary 466416

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Grobe 4" -1RP-1940



Date Received in Lab: Wed Jul-10-13 09:50 am

Report Date: 16-JUL-13

Project Manager: Kelsey Brooks

	Lab Id:	466416-0	007	466416-0	08	466416-	009	466416-	010	466416-0	011	466416-	012
Anglusis Daguastad	Field Id: 5	outh Excavation	NSW-2@	South Excavation,	Floor-1@	South Excavation	, Floor-2@	North Excavatior	i, ESW@18	North Excavation	, NSW@18	North Excavation	, WSW@18
Analysis Requested	Depth:	18 ft		19 ft		19 ft		18 ft		18 ft		18 ft	
	Matrix:	SOIL		SOIL		SOIL	,	SOIL	,	SOIL	,	SOIL	
	Sampled:	Jul-09-13	3:30	Jul-09-13 1	3:35	Jul-09-13	13:40	Jul-09-13	14:00	Jul-09-13	14:05	Jul-09-13	14:10
BTEX by EPA 8021B	Extracted:	Jul-16-13	15:02	Jul-11-13 1	5:45	Jul-16-13	15:02	Jul-11-13	15:45	Jul-11-13	15:45	Jul-11-13	15:45
SUB: TX104704215	Analyzed:	** ** **	**	Jul-11-13 2	3:00	** ** **	**	Jul-11-13	23:32	Jul-12-13 (01:08	Jul-12-13	01:24
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.000994	ND	0.00100	ND	0.000998	ND	0.000992	ND	0.00100	ND	0.00100
Toluene		ND	0.00199	ND	0.00200	ND	0.00200	ND	0.00198	ND	0.00200	ND	0.00201
Ethylbenzene		ND	0.000994	ND	0.00100	ND	0.000998	ND	0.000992	ND	0.00100	ND	0.00100
m,p-Xylenes		ND	0.00199	ND	0.00200	ND	0.00200	ND	0.00198	ND	0.00200	ND	0.00201
o-Xylene		ND	0.000994	ND	0.00100	ND	0.000998	ND	0.000992	ND	0.00100	ND	0.00100
Total Xylenes		ND	0.000994	ND	0.00100	ND	0.000998	ND	0.000992	ND	0.00100	ND	0.00100
Total BTEX		ND	0.000994	ND	0.00100	ND	0.000998	ND	0.000992	ND	0.00100	ND	0.00100
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-12-13	10:00	Jul-12-13 1	0:00	Jul-12-13	10:00	Jul-12-13	10:00	Jul-12-13	10:00	Jul-12-13	10:00
SUB: TX104704215	Analyzed:	Jul-12-13	14:13	Jul-12-13 1	4:36	Jul-12-13	15:00	Jul-12-13	15:24	Jul-12-13	15:47	Jul-12-13	16:35
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		549	20.0	167	10.0	319	10.0	364	10.0	160	10.0	339	10.0
Percent Moisture	Extracted:												
	Analyzed:	Jul-10-13	15:05	Jul-10-13 1	5:50	Jul-10-13	15:50	Jul-10-13	15:50	Jul-10-13	15:50	Jul-10-13	15:50
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		3.12	1.00	5.88	1.00	5.68	1.00	6.88	1.00	6.20	1.00	4.03	1.00
TPH By SW8015 Mod	Extracted:	Jul-16-13	11:00	Jul-16-13 1	1:03	Jul-16-13	11:06	Jul-16-13	11:09	Jul-16-13	11:12	Jul-16-13	11:15
SUB: TX104704215	Analyzed:	Jul-16-13	14:12	Jul-16-13 1	4:34	Jul-16-13	14:55	Jul-16-13	15:17	Jul-16-13	15:39	Jul-16-13	16:01
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.4	ND	15.9	ND	15.9	ND	16.0	ND	15.9	ND	15.6
C12 - C28 Diesel Range Hydrocarbons		ND	15.4	ND	15.9	ND	15.9	ND	16.0	ND	15.9	ND	15.6
C28-C35 Oil Range Hydrocarbons		ND	15.4	ND	15.9	ND	15.9	ND	16.0	ND	15.9	ND	15.6
Total TPH 1005		ND	15.4	ND	15.9	ND	15.9	ND	16.0	ND	15.9	ND	15.6

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Kelsey Brooks Project Manager

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Certificate of Analysis Summary 466416

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Grobe 4" -1RP-1940



Date Received in Lab: Wed Jul-10-13 09:50 am

Project Id: Contact: Camille Bryant

Project Location: Lea County, New Mexico

Report Date:16-JUL-13Project Manager:Kelsey Brooks

						110jeet Manager.	Heisey Brooks	
	Lab Id:	466416-	013	466416-0	14			
An alusia Dama anta d	Field Id:	North Excavation	n, SSW@18	North Excavation,	Floor@18			
Analysis Requested	Depth:	18 ft		19 ft				
	Matrix:	SOIL		SOIL				
	Sampled:	Jul-09-13	14.15	Jul-09-13 1	4.20			
BTEX by EPA 8021B	-	Jul-11-13		Jul-11-13 1				
SUB: TX104704215	Extracted:							
50 D . 1A104704215	Analyzed:			Jul-12-13 0				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene			0.000998		0.00100			
Toluene		ND	0.00200		0.00200			
Ethylbenzene		ND	0.000998	ND	0.00100			
m,p-Xylenes		ND	0.00200	ND	0.00200			
o-Xylene		ND	0.000998	ND	0.00100			
Total Xylenes		ND	0.000998	ND	0.00100			
Total BTEX		ND	0.000998	ND	0.00100			
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-12-13	10:00	Jul-12-13 1	0:00			
SUB: TX104704215	Analyzed:	Jul-12-13	16:58	Jul-12-13 1	7:22			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		270	20.0	222	20.0			
Percent Moisture	Extracted:							
	Analyzed:	Jul-10-13	15:50	Jul-10-13 1	5:58			
	Units/RL:	%	RL	%	RL			
Percent Moisture		6.80	1.00	8.84	1.00			
TPH By SW8015 Mod	Extracted:	Jul-16-13	11:18	Jul-16-13 1	1:21			
SUB: TX104704215	Analyzed:	Jul-16-13	16:23	Jul-16-13 1	6:45			
	Units/RL:	mg/kg	RL	mg/kg	RL			
C6-C12 Gasoline Range Hydrocarbons		ND	16.1	ND	16.3			
C12 - C28 Diesel Range Hydrocarbons		ND	16.1	ND	16.3			
C28-C35 Oil Range Hydrocarbons		ND	16.1	ND	16.3			
Total TPH 1005		ND	16.1	ND	16.3			
				1		1	1	1

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Kelsey Brooks Project Manager

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

LOD Limit of Detection

LOQ Limit of Quantitation

Phone

- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit
- **MDL** Method Detection Limit SDL Sample Detection Limit
- **POL** Practical Quantitation Limit MQL Method Quantitation Limit
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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2505 North Falkenburg Rd, Tampa, FL 33619
12600 West I-20 East, Odessa, TX 79765
6017 Financial Drive, Norcross, GA 30071
3725 E. Atlanta Ave, Phoenix, AZ 85040

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(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Final 1.000

Fax



Project Name: Grobe 4" -1RP-1940

'ork Orders : 466416 Lab Batch #: 918179	, Sample: 466416-001 / SMP	Batc	Project I h: ¹ Matrix					
Units: mg/kg	Date Analyzed: 07/10/13 20:08		RROGATE R		STUDY			
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
	Analytes			[D]				
1-Chlorooctane		88.9	99.9	89	70-135			
o-Terphenyl		53.6	50.0	107	70-135			
Lab Batch #: 918179	Sample: 466416-002 / SMP	Batc	h: ¹ Matrix	:Soil				
Units: mg/kg	Date Analyzed: 07/10/13 20:34	SU	RROGATE R	ECOVERY S	STUDY			
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag		
1-Chlorooctane		90.7	100	91	70-135			
o-Terphenyl		55.1	50.0	110	70-135			
Lab Batch #: 918179	Sample: 466416-004 / SMP	Batc	h: ¹ Matrix	:Soil	1 1			
Units: mg/kg	Date Analyzed: 07/10/13 20:59			ECOVERY S	Soil COVERY STUDY Control			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag		
1.011	Analytes							
1-Chlorooctane		89.6	99.9	90	70-135			
o-Terphenyl		54.0	50.0	108	70-135			
Lab Batch #: 918179	Sample: 466416-005 / SMP	Batc						
Units: mg/kg	Date Analyzed: 07/10/13 21:24	SU	RROGATE R	ECOVERY	STUDY			
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag		
1-Chlorooctane		92.9	100	93	70-135			
o-Terphenyl		57.2	50.1	114	70-135			
Lab Batch #: 918272	Sample: 466416-002 / SMP	Batc	h: ¹ Matrix	Soil	<u> </u>			
Units: mg/kg	Date Analyzed: 07/11/13 21:24			ECOVERY S	oil COVERY STUDY Recovery STUDY %R [D] 93 70-135 114 70-135 0il COVERY STUDY Control			
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag		
1,4-Difluorobenzene		0.0303	0.0300	101	80-120			
				1				

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Grobe 4" -1RP-1940

'ork Orders : 466416 Lab Batch #: 918272	, Sample: 466416-003 / SMP	Batcl	Project II h: 1 Matrix						
Units: mg/kg	Date Analyzed: 07/11/13 21:40		RROGATE R		STUDY				
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1,4-Difluorobenzene		0.0295	0.0300	98	80-120				
4-Bromofluorobenzene		0.0263	0.0300	88	80-120				
Lab Batch #: 918272	Sample: 466416-004 / SMP	Batcl	h: ¹ Matrix	:Soil					
Units: mg/kg	Date Analyzed: 07/11/13 21:56	SU	RROGATE R	ECOVERY S	STUDY				
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage			
1,4-Difluorobenzene	Analytes	0.0304	0.0300	101	80-120				
4-Bromofluorobenzene		0.0293	0.0300	98	80-120				
Lab Batch #: 918272	Sample: 466416-005 / SMP	Batc	h: 1 Matrix	:Soil					
Units: mg/kg	Date Analyzed: 07/11/13 22:12	SU		Matrix: Soil ATE RECOVERY STUDY					
BTEX	BTEX by EPA 8021B Analytes			Recovery %R [D]	Control Limits %R	Flag			
1,4-Difluorobenzene		0.0328	0.0300	109	80-120				
4-Bromofluorobenzene		0.0275	0.0300	92	80-120				
L ab Batch #: 918272	Sample: 466416-006 / SMP	Batcl	h: 1 Matrix	:Soil	· ·				
Units: mg/kg	Date Analyzed: 07/11/13 22:28	SU	RROGATE R	ECOVERY S	STUDY				
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage			
	Analytes			[D]					
1,4-Difluorobenzene		0.0298	0.0300	99	80-120				
4-Bromofluorobenzene		0.0287	0.0300	96	80-120				
Lab Batch #: 918272	Sample: 466416-008 / SMP	Batcl							
Units: mg/kg	Date Analyzed: 07/11/13 23:00	SU	RROGATE R	ECOVERY	96 80-120 il OVERY STUDY				
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage			
1,4-Difluorobenzene	1 11101 J US	0.0310	0.0300	103	80-120				
4-Bromofluorobenzene		0.0255	0.0300	85	80-120				

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Grobe 4" -1RP-1940

'ork Orders: 466416 Lab Batch #: 918272	, Sample: 466416-010 / SMP	Batcl	Project I h: ¹ Matrix					
	Date Analyzed: 07/11/13 23:32		RROGATE R		STUDY			
Units: mg/kg BTE2	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes			[D]				
1,4-Difluorobenzene		0.0331	0.0300	110	80-120			
4-Bromofluorobenzene		0.0270	0.0300	90	80-120			
Lab Batch #: 918272	Sample: 466416-011 / SMP	Batcl	h: ¹ Matrix	:Soil				
Units: mg/kg	Date Analyzed: 07/12/13 01:08	SU.	RROGATE R	ECOVERY S	STUDY			
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene	Anarytes	0.0322	0.0300	107	80-120			
4-Bromofluorobenzene		0.0270	0.0300	90	80-120			
Lab Batch #: 918272	Sample: 466416-012 / SMP	Batcl	h: ¹ Matrix	:Soil	11			
Units: mg/kg	Date Analyzed: 07/12/13 01:24	SU	RROGATE R	DGATE RECOVERY STUDY				
BTEX	BTEX by EPA 8021B Analytes			Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene		0.0333	0.0300	111	80-120			
4-Bromofluorobenzene		0.0276	0.0300	92	80-120			
Lab Batch #: 918272	Sample: 466416-013 / SMP	Batcl	h: 1 Matrix	:Soil	1 1			
Units: mg/kg	Date Analyzed: 07/12/13 01:40	SU	RROGATE R	ECOVERYS	STUDY			
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes			[D]				
1,4-Difluorobenzene		0.0328	0.0300	109	80-120			
4-Bromofluorobenzene		0.0283	0.0300	94	80-120			
Lab Batch #: 918272	Sample: 466416-014 / SMP	Batcl						
Units: mg/kg	Date Analyzed: 07/12/13 01:56	SU	RROGATE R	ECOVERY	STUDY			
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene		0.0314	0.0300	105	80-120			
4-Bromofluorobenzene		0.0259	0.0300	86	80-120			

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Grobe 4" -1RP-1940

'ork Orders: 466416 Lab Batch #: 918272	, Sample: 466416-001 / SMP	Batc	Project I h: ¹ Matrix					
	·		RROGATE R	-	STUDY			
Units: mg/kg BTE	Date Analyzed: 07/12/13 13:36 X by EPA 8021B	Amount Found	True Amount [B]	Recovery %R	Control Limits	Flags		
	Analytes	[A]	[D]	[D]	Control Limits %R 80-120 80-120 7 STUDY 80-120 80-120 80-120 80-120 7 STUDY Control Limits %R 80-120 80-120 80-120 80-120 7 STUDY			
1,4-Difluorobenzene		0.0322	0.0300	107	80-120			
4-Bromofluorobenzene		0.0275	0.0300	92	80-120			
Lab Batch #: 918540	Sample: 466416-007 / SMP	Batcl	h: ¹ Matrix	:Soil				
Units: mg/kg	Date Analyzed: 07/16/13 10:27	SU	RROGATE R	ECOVERY S	STUDY			
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flag		
1,4-Difluorobenzene		0.0326	0.0300	109	80-120			
4-Bromofluorobenzene		0.0323	0.0300	108	80-120			
Lab Batch #: 918540	Sample: 466416-009 / SMP	Batc	h: ¹ Matrix	:Soil	1 1			
Units: mg/kg	Date Analyzed: 07/16/13 10:43	SU	RROGATE R		STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Limits	Flag		
	Analytes			[D]				
1,4-Difluorobenzene		0.0315	0.0300	105	80-120			
4-Bromofluorobenzene		0.0321	0.0300	107	80-120			
Lab Batch #: 918543	Sample: 466416-003 / SMP	Batcl						
Units: mg/kg	Date Analyzed: 07/16/13 13:28	SU	RROGATE R	ECOVERY	STUDY			
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flage		
1-Chlorooctane	-	87.7	99.4	88	70-135			
o-Terphenyl		50.7	49.7	102	70-135			
Lab Batch #: 918543	Sample: 466416-006 / SMP	Batc	h: 1 Matrix	:Soil				
Units: mg/kg	Date Analyzed: 07/16/13 13:50	SU	RROGATE R	ECOVERY	Soil COVERY STUDY			
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Limits	Flag		
1-Chlorooctane		81.4	99.6	82	70-135			
				1				

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Grobe 4" -1RP-1940

ork Orders : 466416 Lab Batch #: 918543	o, Sample: 466416-007 / SMP	Batc	Project I h: ¹ Matrix			
Units: mg/kg	Date Analyzed: 07/16/13 14:12		RROGATE R	-	STUDY	
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
	Analytes			[D]		
1-Chlorooctane		78.8	99.3	79	70-135	
o-Terphenyl		46.0	49.7	93	70-135	
Lab Batch #: 918543	Sample: 466416-008 / SMP	Batc				
Units: mg/kg	Date Analyzed: 07/16/13 14:34	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		85.9	99.9	86	70-135	
o-Terphenyl		49.7	50.0	99	70-135	
Lab Batch #: 918543	Sample: 466416-009 / SMP	Batc	h: ¹ Matrix	: Soil	1	
Units: mg/kg	Date Analyzed: 07/16/13 14:55	SURROGATE RECOVERY STUDY				
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes		[0]	[D]	701	
1-Chlorooctane		85.4	99.8	86	70-135	
o-Terphenyl		48.2	49.9	97	70-135	
Lab Batch #: 918543	Sample: 466416-010 / SMP	Batc	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 07/16/13 15:17	SU	RROGATE R	ECOVERYS	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		84.7	99.6	85	70-135	
o-Terphenyl		48.6	49.8	98	70-135	
Lab Batch #: 918543	Sample: 466416-011 / SMP	Batc	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 07/16/13 15:39	SU	RROGATE R	ECOVERYS	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1-Chlorooctane		81.9	99.2	83	70-135	
o-Terphenyl		48.0	49.6	97	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Grobe 4" -1RP-1940

' ork Orders : 466416 Lab Batch #: 918543	, Sample: 466416-012 / SMP	Bato	Project I h: ¹ Matrix					
Units: mg/kg	Date Analyzed: 07/16/13 16:01		RROGATE R		STUDY			
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes	[**]	[12]	[D]				
1-Chlorooctane		85.5	100	86	70-135			
o-Terphenyl		51.8	50.0	104	70-135			
Lab Batch #: 918543	Sample: 466416-013 / SMP	Bate	ch: ¹ Matrix	:Soil				
Units: mg/kg	Date Analyzed: 07/16/13 16:23	SU	RROGATE R	ECOVERY S	STUDY			
TPH 1	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		84.9	99.9	85	70-135			
o-Terphenyl		48.2	50.0	96	70-135			
Lab Batch #: 918543	Sample: 466416-014 / SMP	Bato	h: ¹ Matrix	: Soil	1 1			
Units: mg/kg	Date Analyzed: 07/16/13 16:45			atrix: Soil E RECOVERY STUDY				
TPH	TPH By SW8015 Mod		True Amount [B]	Recovery %R [D]	Control Limits %R	Flage		
1 Chlanna stand	Analytes	04.0	00.2		70.125			
1-Chlorooctane o-Terphenyl		84.9 48.6	99.3	85 98	70-135			
	a				70-135			
Lab Batch #: 918179	Sample: 640919-1-BLK / BL		ch: 1 Matrix		STUDV			
Units: mg/kg	Date Analyzed: 07/10/13 10:35	50	KRUGATE R					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag		
1-Chlorooctane		75.1	99.7	75	70-135			
o-Terphenyl		41.5	49.9	83	70-135			
Lab Batch #: 918272	Sample: 640993-1-BLK / BL	K Bato	ch: 1 Matrix	:Solid				
Units: mg/kg	Date Analyzed: 07/11/13 20:53	SU	RROGATE R	ECOVERY S	STUDY			
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage		
1,4-Difluorobenzene	•	0.0294	0.0300	98	80-120			
4-Bromofluorobenzene		0.0257	0.0300	86	80-120			

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Grobe 4" -1RP-1940

ork Orders : 466416 Lab Batch #: 918540	, Sample: 641162-1-BLK / B	LK Batcl	Project I h: ¹ Matrix			
Units: mg/kg	Date Analyzed: 07/16/13 10:11		RROGATE R		STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
	Analytes			[D]		
1,4-Difluorobenzene		0.0317	0.0300	106	80-120	
4-Bromofluorobenzene		0.0313	0.0300	104	80-120	
Lab Batch #: 918543	Sample: 641141-1-BLK / B	LK Batcl	h: ¹ Matrix	:Solid		
Units: mg/kg	Date Analyzed: 07/16/13 10:57	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	Anarytes	86.1	100	86	70-135	
o-Terphenyl		49.8	50.0	100	70-135	
Lab Batch #: 918179	Sample: 640919-1-BKS / B	KS Batcl	h: ¹ Matrix	· Solid	1 1	
Units: mg/kg	Date Analyzed: 07/10/13 09:17		RROGATE R		STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
	Analytes			[D]		
1-Chlorooctane		84.3	99.9	84	70-135	
o-Terphenyl		52.8	50.0	106	70-135	
Lab Batch #: 918272	Sample: 640993-1-BKS / B		-			
Units: mg/kg	Date Analyzed: 07/11/13 20:05	SU	RROGATE R	ECOVERY	STUDY	
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1.4-Difluorobenzene	Anarytes	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene		0.0328	0.0300	93	80-120	
Lab Batch #: 918540	Sample: 641162-1-BKS / B					
	Date Analyzed: 07/16/13 09:22		RROGATE R		STUDY	
Units: mg/kg						
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorobenzene	·	0.0355	0.0300	118	80-120	
,		0.0555	0.0500	1 10	00120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Grobe 4" -1RP-1940

ork Orders : 466416 Lab Batch #: 918543	, Sample: 641141-1-BKS / B	KS Batcl	Project I h: ¹ Matrix			
Units: mg/kg	Date Analyzed: 07/16/13 11:18		RROGATE R		STUDY	
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		84.0	100	84	70-135	
o-Terphenyl		50.1	50.0	100	70-135	
Lab Batch #: 918179	Sample: 640919-1-BSD / B	SD Batcl	h: ¹ Matrix	:Solid		
Units: mg/kg	Date Analyzed: 07/10/13 10:10	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	1 mary tes	81.8	100	82	70-135	
o-Terphenyl		51.0	50.1	102	70-135	
Lab Batch #: 918272	Sample: 640993-1-BSD / B	SD Batcl	h: ¹ Matrix	:Solid		
Units: mg/kg	Date Analyzed: 07/11/13 20:21		RROGATE R		STUDY	
BTEX by EPA 8021B Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0324	0.0300	108	80-120	
4-Bromofluorobenzene		0.0273	0.0300	91	80-120	
Lab Batch #: 918540	Sample: 641162-1-BSD / B	SD Batcl	h: 1 Matrix	:Solid	1 1	
Units: mg/kg	Date Analyzed: 07/16/13 09:39	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	Analytes	0.0257	0.0200		80.120	
4-Bromofluorobenzene		0.0357 0.0293	0.0300	98	80-120 80-120	
	0l. (41141-1 D0D / D				00 120	
Lab Batch #: 918543	Sample: 641141-1-BSD / B		h: 1 Matrix		STUDV	
Units: mg/kg	Date Analyzed: 07/16/13 11:39					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	лиатуцъ	88.5	100	89	70-135	
		00.3	100	09	/0-133	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Grobe 4" -1RP-1940

ork Orders : 466416 Lab Batch #: 918179	s, Sample: 466325-002 S / M	S Batcl	Project I h: ¹ Matrix								
Units: mg/kg	Date Analyzed: 07/10/13 16:03		RROGATE R		STUDY						
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag					
	Analytes			[D]							
1-Chlorooctane		79.7	99.6	80	70-135						
o-Terphenyl		50.8 49.8 102 70-135									
Lab Batch #: 918543	Sample: 466712-001 S / MS	S Batcl	h: ¹ Matrix	: Soil							
Units: mg/kg	Date Analyzed: 07/16/13 12:45	SU	RROGATE R	ECOVERY S	STUDY						
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag					
1-Chlorooctane	Analytes	118	100	118	70-135						
o-Terphenyl		53.6	50.0	1107	70-135						
1 0	Sample: 466325-002 SD / N				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
Lab Batch #: 918179	Date Analyzed: 07/10/13 16:36	/ MSD Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY									
Units: mg/kg		Amount True Control									
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag					
1-Chlorooctane	Analytes	82.3	100	82	70-135						
o-Terphenyl		50.9	50.0	102	70-135						
Lab Batch #: 918272	Sample: 466416-010 SD / N	MSD Batcl	h: 1 Matrix	r: Soil	<u> </u>						
Units: mg/kg	Date Analyzed: 07/12/13 00:04		RROGATE R		STUDY						
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag					
	Analytes			[D]							
1,4-Difluorobenzene		0.0341	0.0300	114	80-120						
		0.0351	0.0300	117	80-120						
4-Bromofluorobenzene				Sail							
4-Bromofluorobenzene Lab Batch #: 918543	Sample: 466712-001 SD / N										
	Sample: 466712-001 SD / N Date Analyzed: 07/16/13 13:06		h: ¹ Matrix RROGATE R		STUDY						
Lab Batch #: 918543 Units: mg/kg	Date Analyzed: 07/16/13 13:06 By SW8015 Mod			ECOVERY S Recovery %R	STUDY Control Limits %R	Flag					
Lab Batch #: 918543 Units: mg/kg	Date Analyzed: 07/16/13 13:06	SU: Amount Found	RROGATE R True Amount	ECOVERY S	Control Limits	Flag					

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





Project Name: Grobe 4'' -1RP-1940

Work Order #: 466416								ject ID:			
Analyst: MAB	Da	ate Preparo	ed: 07/11/20	13					07/11/2013		
Lab Batch ID: 918272 Sample: 640993	-1-BKS	Batch	#: 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK	SPIKE / E	BLANK S	PIKE DUPI	LICATE	RECOVI	ERY STUD	Y	
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000998	0.0998	0.0881	88	0.100	0.0896	90	2	70-130	35	
Toluene	<0.00200	0.0998	0.0842	84	0.100	0.0852	85	1	70-130	35	
Ethylbenzene	<0.000998	0.0998	0.0857	86	0.100	0.0865	87	1	71-129	35	
m,p-Xylenes	<0.00200	0.200	0.169	85	0.200	0.171	86	1	70-135	35	
o-Xylene	<0.000998	0.0998	0.0853	85	0.100	0.0859	86	1	71-133	35	
Analyst: MAB	Da	ate Prepar	ed: 07/16/20	13			Date A	nalyzed: (07/16/2013		
Analyst: MABLab Batch ID: 918540Sample: 641162		ate Preparo Batch		13				nalyzed: (Matrix: S			
v		Batch	#: 1		BLANK S	PIKE DUPI		Matrix: S	Solid	Y	
Lab Batch ID: 918540 Sample: 641162		Batch	#: 1		BLANK S Spike Added [E]	PIKE DUPI Blank Spike Duplicate Result [F]		Matrix: S	Solid	Y Control Limits %RPD	Flag
Lab Batch ID: 918540 Sample: 641162 Units: ^{mg/kg} BTEX by EPA 8021B	-1-BKS Blank Sample Result	Batch BLANI Spike Added	#: 1 K /BLANK S Blank Spike Result	SPIKE / E Blank Spike %R	Spike Added	Blank Spike Duplicate	LICATE Blk. Spk Dup. %R	Matrix: S RECOVI	Solid ERY STUD Control Limits	Control Limits	Flag
Lab Batch ID: 918540 Sample: 641162 Units: ^{mg/kg} BTEX by EPA 8021B Analytes	-1-BKS Blank Sample Result [A]	Batch BLAN Spike Added [B]	#: 1 X /BLANK Blank Spike Result [C]	SPIKE / E Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	LICATE Blk. Spk Dup. %R [G]	Matrix: S RECOVI	Solid ERY STUD Control Limits %R	Control Limits %RPD	Flag
Lab Batch ID: 918540 Sample: 641162 Units: ^{mg/kg} BTEX by EPA 8021B Analytes Benzene	-1-BKS Blank Sample Result [A] <0.00100	Batch BLANI Spike Added [B] 0.100	#: 1 K /BLANK S Blank Spike Result [C] 0.0849	SPIKE / F Blank Spike %R [D] 85	Spike Added [E] 0.100	Blank Spike Duplicate Result [F]	JCATE Blk. Spk Dup. %R [G] 86	Matrix: S RECOVI RPD %	Solid ERY STUD Control Limits %R 70-130	Control Limits %RPD 35	Flag
Lab Batch ID: 918540 Sample: 641162 Units: mg/kg BTEX by EPA 8021B Analytes Benzene Toluene Toluene	-1-BKS Blank Sample Result [A] <0.00100	Batch BLANI Spike Added [B] 0.100 0.100	#: 1 K /BLANK Blank Spike Result [C] 0.0849 0.0819	SPIKE / E Blank Spike %R [D] 85 82	Spike Added [E] 0.100 0.100	Blank Spike Duplicate Result [F] 0.0861 0.0833	Blk. Spk Dup. %R [G] 86 83	Matrix: S RECOVH %	Solid ERY STUD Control Limits %R 70-130 70-130	Control Limits %RPD 35 35	Flag

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





Project Name: Grobe 4'' -1RP-1940

Work Order #: 466416 Analyst: AMB	Da	ate Prepar	ed: 07/12/201	3	Project ID: Date Analyzed: 07/12/2013							
Lab Batch ID: 918517 Sample: 641156-1-E	BKS	Bate	h #: 1					Matrix: S	Solid			
Units: mg/kg		BLAN	K /BLANK S	SPIKE / F	BLANK S	SPIKE DUPI	ICATE	RECOVI	ERY STUD	Y		
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	<2.00	50.0	52.5	105	50.0	52.2	104	1	90-110	20		
Analyst: DYV	D	ate Prepar	ed: 07/10/201	3			Date A	nalyzed: ()7/10/2013			
Lab Batch ID: 918179 Sample: 640919-1-E	BKS	Batc	h #: 1					Matrix: S	Solid			
Units: ^{mg/kg}		BLAN	K /BLANK S	SPIKE / E	BLANK S	SPIKE DUPI	ICATE	RECOVI	ERY STUD	Y		
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]					
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	873	87	1000	853	85	2	70-135	35		
C12 - C28 Diesel Range Hydrocarbons	<15.0	999	1060	106	1000	1060	106	0	70-135	35		
Analyst: KAN	Da	ate Prepar	ed: 07/16/201	3			Date A	nalyzed: (07/16/2013			
Lab Batch ID: 918543 Sample: 641141-1-E	BKS	Batc	h #: 1					Matrix: S	Solid			
Units: ^{mg/kg}		BLAN	K /BLANK S	SPIKE / E	BLANK S	SPIKE DUPI	ICATE	RECOVI	ERY STUD	Y		
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	
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1050	105	1000	1060	106	1	70-135	35		
C12 - C28 Diesel Range Hydrocarbons	<15.0	1000	955	96	1000	922	92	4	70-135	35		

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



Chloride

Form 3 - MS Recoveries

Added

[B]

250

Result

[A]

160

[D]

119

[C]

458

%R

80-120





Flag

Х

Flag

ITOJECT			III 171	•			
Work Order #: 466416							
Lab Batch #: 918517				Pr	oject ID:	1	
Date Analyzed: 07/12/2013	Date P	Prepared: 07/1	2/2013	A	Analyst: A	MB	
QC- Sample ID: 466416-001 S		Batch #: 1		1	Matrix: S	oil	
Reporting Units: mg/kg		MATI	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300		Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Fla
Analytes		[A]	[B]				
Chloride		339	250	653	126	80-120	2
Lab Batch #: 918517							
Date Analyzed: 07/12/2013	Date P	Prepared: 07/1	2/2013	A	Analyst: A	MB	
QC- Sample ID: 466416-011 S		Batch #: 1		1	Matrix: S	oil	
Reporting Units: mg/kg		MATH	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300		Parent Sample	Spike	Spiked Sample Result	%R	Control Limits	Fla

Matrix Spike Percent Recovery [D] = 100*(C-A)/BRelative Percent Difference [E] = 200*(C-A)/(C+B)All Results are based on MDL and Validated for QC Purposes

Analytes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries

Project Name: Grobe 4" -1RP-1940



Work Order # : 466416						Project II):				
Lab Batch ID: 918179	QC- Sample ID:	466325	-002 S	Ba	tch #:	1 Matrix	x: Soil				
Date Analyzed: 07/10/2013	Date Prepared:	07/10/2	013	An	alyst: 1	DYV					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	IKE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample		RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	<15.5	1040	843	81	1040	863	83	2	70-135	35	
C12 - C28 Diesel Range Hydrocarbons	<15.5	1040	1090	105	1040	1100	106	1	70-135	35	
Lab Batch ID: 918543	QC- Sample ID:	466712	-001 S	Ba	tch #:	1 Matrix	x: Soil				
Date Analyzed: 07/16/2013	Date Prepared:	07/16/2	013	An	alyst: 1	KAN					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	IKE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		[D]	[E]	Ktsuit [F]	[G]	70	701		
C6-C12 Gasoline Range Hydrocarbons	<15.1	1010	1060	105	1010	1050	104	1	70-135	35	
C12 - C28 Diesel Range Hydrocarbons	<15.1	1010	937	93	1010	940	93	0	70-135	35	

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





Project Name: Grobe 4" -1RP-1940

Work Order #: 466416

Lab Batch #: 918211			Project I	D:	
Date Analyzed: 07/10/2013 14:45 Date Prep	pared: 07/10/2013	3 Anal	lyst:AMB		
QC- Sample ID: 466408-001 D Ba	atch #: 1	Mat	rix: Soil		
Reporting Units: %	SAMPLE /	SAMPLE	DUPLIC.	ATE RECO	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Percent Moisture	4.41	4.13	7	20	
Lab Batch #: 918214					
	pared: 07/10/2013	3 Anal	lyst:AMB		
Date Analyzed: 07/10/2013 15:58 Date Prep	pared: 07/10/2013 atch #: 1		lyst: AMB rix: Soil		
Date Analyzed: 07/10/2013 15:58 Date Prep	atch #: 1		rix: Soil	ATE RECO	OVERY
Date Analyzed: 07/10/2013 15:58 Date Prep QC- Sample ID: 466416-014 D Ba	atch #: 1	Mat	rix: Soil	ATE RECO Control Limits %RPD	OVERY Flag

Spike Relative Difference RPD 200 * (B-A)/(B+A) All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

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Relinquished by:	nquishe	Relinquiste	cial In											LAB # (lab use only)	(lab use only) ORDER #:			~		0	T	Aenco The Environme
Date Date	shed by: This Particular The 13	by Reales 7/10/E	Special Instructions:	North Excavation, ESW@18'	South Excavation, Floor-2 @19'	South Excavation, Floor-1 @19'	South Excavation, NSW-2@18'	South Excavation, NSW-1@18'	South Excavation, WSW-1@18'	South Excavation, ESW-1@18'	South Excavation, SSW-3@18'	South Excavation, SSW-2@18'	South Excavation, SSW-1@18'	FIELD CODE	# 4666116	Sampler Signature	Telephone No: 432.520.7720	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name Nova Safety and Environmental	Project Manager: Camille Bryant	The Environmental Lab of Texas
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eratu	Sample Hand Delivered by Sampler/Client Rep. ?	Labels on container(s) Custody seals on containe Custody seals on cooler(s)	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace?			\vdash	\vdash		\vdash	\vdash			\vdash	SAR / ESP / CEC	TOTAL:	TCIP	Sta					An
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Page 23 of 25

Final 1.000

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d by: Date	Henlin 7/10/ Dun 110	Instructions: By M TO SUSS					North Excavation, Floor@19'	North Excavation, SSW@18'	North Excavation, WSW@18'	North Excavation, NSW@18'	FIELD CODE	466416	Sampler Signature:	Telephone No: 432.520.7720	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name Nova Safety and Environmental	Project Manager: Camille Bryant	The Environmental Lab of Texas
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Final 1.000



# **XENCO** Laboratories



#### Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 07/10/2013 09:50:00 AM **Temperature Measuring device used :** Work Order #: 466416

Comments Sample Receipt Checklist #1 *Temperature of cooler(s)? 4 #2 *Shipping container in good condition? Yes #3 *Samples received on ice? Yes #4 *Custody Seals intact on shipping container/ cooler? Yes #5 Custody Seals intact on sample bottles? Yes #6 *Custody Seals Signed and dated? Yes #7 *Chain of Custody present? Yes #8 Sample instructions complete on Chain of Custody? Yes #9 Any missing/extra samples? No #10 Chain of Custody signed when relinquished/ received? Yes #11 Chain of Custody agrees with sample label(s)? Yes #12 Container label(s) legible and intact? Yes #13 Sample matrix/ properties agree with Chain of Custody? Yes #14 Samples in proper container/ bottle? Yes #15 Samples properly preserved? Yes #16 Sample container(s) intact? Yes #17 Sufficient sample amount for indicated test(s)? Yes #18 All samples received within hold time? Yes #19 Subcontract of sample(s)? No #20 VOC samples have zero headspace (less than 1/4 inch bubble)? N/A #21 <2 for all samples preserved with HNO3,HCL, H2SO4? N/A #22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Mms Moah Kelsey Brooks Checklist reviewed by: Mms Moah Kelsey Brooks

Date: 07/12/2013

Date: 07/12/2013

# Analytical Report 466585

### for Southern Union Gas Services- Monahans

Project Manager: Camille Bryant SUGS Historical Grobe 4" 1RP-1940

### 19-JUL-13

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-13-14-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Lakeland: Florida (E84098) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



19-JUL-13



Project Manager: **Camille Bryant Southern Union Gas Services- Monahans** 801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): 466585 SUGS Historical Grobe 4" 1RP-1940 Project Address: Lea County, New Mexico

#### **Camille Bryant**:

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) 466585. 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. 466585 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully. mshoah

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 - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



### Sample Cross Reference 466585



### Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical Grobe 4" 1RP-1940

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1	S	07-11-13 14:00	ft	466585-001
SP-2	S	07-11-13 14:10	ft	466585-002
SP-3	S	07-11-13 14:20	ft	466585-003
SP-4	S	07-11-13 14:30	ft	466585-004
Topsoil-1	S	07-11-13 14:40	ft	466585-005
Topsoil-2	S	07-11-13 14:50	ft	466585-006



### CASE NARRATIVE



Client Name: Southern Union Gas Services- Monahans Project Name: SUGS Historical Grobe 4" 1RP-1940

Project ID: Work Order Number(s): 466585 Report Date: 19-JUL-13 Date Received: 07/12/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

**Analytical non conformances and comments:** Batch: LBA-918682 BTEX by EPA 8021B SW8021BM

Batch 918682, Benzene recovered below QC limits in the Matrix Spike. Samples affected are: 466585-005, -006, -003, -002. The Laboratory Control Sample for Benzene is within laboratory Control Limits



### Certificate of Analysis Summary 466585

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Grobe 4" 1RP-1940



Date Received in Lab: Fri Jul-12-13 09:30 am Report Date: 19-JUL-13

Project Id: Contact: Camille Bryant Project Location: Lea County, New Mexico

oject Location: Lea County, New Mexico								-					
	<u> </u>							Project Ma	nager:	Kelsey Brook	s		
	Lab Id:	466585-0	01	466585-0	02	466585-0	003	466585-0	04	466585-0	005	466585-0	006
Anglusis Doguested	Field Id:	SP-1		SP-2		SP-3		SP-4		Topsoil	-1	Topsoil	-2
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL	,	SOIL		SOIL		SOIL	,
	Sampled:	Jul-11-13 1	4:00	Jul-11-13 1	4:10	Jul-11-13 1	14:20	Jul-11-13 1	4:30	Jul-11-13 1	4:40	Jul-11-13	14:50
BTEX by EPA 8021B	Extracted:	Jul-16-13 1	5:02	Jul-17-13 1	6:00	Jul-17-13	16:00	Jul-16-13 1	5:02	Jul-18-13 (	)9:52	Jul-18-13	09:52
	Analyzed:	** ** **	**	Jul-17-13 2	1:46	Jul-17-13 2	22:02	** ** **	**	Jul-18-13	6:32	Jul-18-13	16:48
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.000998	ND	0.00199	ND	0.00199	ND	0.000998	ND	0.00200	ND	0.00200
Toluene		ND	0.00200	ND	0.00398	ND	0.00398		0.00200	ND	0.00399	ND	0.00400
Ethylbenzene		ND	0.000998	ND	0.00199	ND	0.00199	ND	0.000998	ND	0.00200	ND	0.00200
m,p-Xylenes		ND	0.00200	ND	0.00398	ND	0.00398		0.00200	ND	0.00399	ND	0.00400
o-Xylene		ND	0.000998	ND	0.00199	ND	0.00199	ND	0.000998	ND	0.00200	ND	0.00200
Total Xylenes			0.000998	-	0.00199	ND	0.00199		0.000998	ND	0.00200	ND	0.00200
Total BTEX		ND	0.000998	ND	0.00199	ND	0.00199	ND	0.000998	ND	0.00200	ND	0.00200
Inorganic Anions by EPA 300/300.1	Extracted:	Jul-16-13 1	0:00	Jul-16-13 1	0:00	Jul-16-13	10:00	Jul-16-13 1	0:00	Jul-16-13	0:00	Jul-16-13	10:00
	Analyzed:	Jul-16-13 2	2:28	Jul-16-13 2	3:14	Jul-16-13 2	23:36	Jul-16-13 2	3:59	Jul-17-13 (	00:22	Jul-17-13	00:45
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		178	10.0	225	10.0	186	10.0	205	10.0	26.6	2.00	57.0	10.0
Percent Moisture	Extracted:												
	Analyzed:	Jul-12-13 1	6:35	Jul-12-13 1	6:35	Jul-12-13	16:35	Jul-12-13 1	6:35	Jul-12-13	6:35	Jul-12-13	16:35
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		3.80	1.00	4.02	1.00	3.67	1.00	2.59	1.00	1.08	1.00	1.01	1.00
TPH By SW8015 Mod	Extracted:	Jul-17-13 1	4:51	Jul-17-13 1	4:54	Jul-17-13	14:57	Jul-17-13 1	5:00	Jul-17-13 1	5:03	Jul-17-13	15:06
SUB: TX104704215	Analyzed:	Jul-17-13 2	3:19	Jul-17-13 2	3:40	Jul-18-13 (	00:01	Jul-18-13 0	0:22	Jul-18-13 (	00:43	Jul-18-13	01:04
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.5	ND	15.6	ND	15.5	ND	15.3	ND	15.1	ND	15.1
C12 - C28 Diesel Range Hydrocarbons		ND	15.5	ND	15.6	ND	15.5	ND	15.3	ND	15.1	ND	15.1
C28-C35 Oil Range Hydrocarbons		ND	15.5	ND	15.6	ND	15.5	ND	15.3	ND	15.1	ND	15.1
Total TPH 1005		ND	15.5	ND	15.6	ND	15.5	ND	15.3	ND	15.1	ND	15.1

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

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Huns Boah

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.

LOD Limit of Detection

LOQ Limit of Quantitation

- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- RL Reporting Limit
- MDL Method Detection Limit SDL Sample Detection Limit
- PQL Practical Quantitation Limit MQL Method Quantitation Limit
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Final 1.000





'ork Orders : 466585 Lab Batch #: 918540	, Sample: 466585-001 / SMP	Batc	Project I h: 1 Matrix			
Units: mg/kg	Date Analyzed: 07/16/13 10:59		RROGATE R		STUDY	
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0313	0.0300	104	80-120	
4-Bromofluorobenzene		0.0306	0.0300	102	80-120	
Lab Batch #: 918540	Sample: 466585-004 / SMP	Batc	h: ¹ Matrix	<b>x:</b> Soil		
Units: mg/kg	Date Analyzed: 07/16/13 11:47	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	Analytes	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene		0.0320	0.0300	107	80-120	
Lab Batch #: 918682	Sample: 466585-002 / SMP	Batc	h: ¹ Matrix	r: Soil		
Units: mg/kg	Date Analyzed: 07/17/13 21:46		RROGATE R		STUDY	
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
140.0	Analytes					
1,4-Difluorobenzene		0.0309	0.0300	103	80-120	
4-Bromofluorobenzene		0.0303	0.0300	101	80-120	
Lab Batch #: 918682	Sample: 466585-003 / SMP	Batc	-	-		
Units: mg/kg	Date Analyzed: 07/17/13 22:02	SU	RROGATE R	ECOVERY S	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorobenzene	-	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene		0.0288	0.0300	96	80-120	
Lab Batch #: 918702	Sample: 466585-001 / SMP	Batc	h: 1 Matrix	c:Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 07/17/13 23:19	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane		95.8	99.5	96	70-135	
o-Terphenyl		57.8	49.8	116	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





'ork Orders : 466585 Lab Batch #: 918702	Sample: 466585-002 / SMP	Bate	Project I th: ¹ Matrix			
Units: mg/kg	Date Analyzed: 07/17/13 23:40		JRROGATE R	-	STUDY	
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		81.7	99.6	82	70-135	
o-Terphenyl		49.4	49.8	99	70-135	
Lab Batch #: 918702	Sample: 466585-003 / SMP	Bate	ch: ¹ Matrix	c:Soil		
Units: mg/kg	Date Analyzed: 07/18/13 00:01	SURROGATE RECOVERY STUDY				
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		83.0	99.8	83	70-135	
o-Terphenyl		50.0	49.9	100	70-135	
Lab Batch #: 918702	Sample: 466585-004 / SMP	Bate	h: 1 Matrix	r Soil		
Units: mg/kg	Date Analyzed: 07/18/13 00:22	SURROGATE RECOVERY STUDY				
	By SW8015 Mod	Amount Found	True Amount [B]	Recovery %R	Control Limits %R	Flage
	Analytes	[A]	[D]	[D]	70K	
1-Chlorooctane		89.1	99.4	90	70-135	
o-Terphenyl		53.7	49.7	108	70-135	
Lab Batch #: 918702	Sample: 466585-005 / SMP	Bate	ch: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 07/18/13 00:43	SU	<b>RROGATE R</b>	ECOVERYS	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane		79.7	99.7	80	70-135	
o-Terphenyl		47.0	49.9	94	70-135	
Lab Batch #: 918702	Sample: 466585-006 / SMP	Bato	ch: 1 Matrix	:Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 07/18/13 01:04	SU	JRROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		76.9	99.6	77	70-135	
o-Terphenyl		45.4	49.8	91	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



## Project Name: SUGS Historical Grobe 4" 1RP-1940

ork Orders : 466585			Project I					
Lab Batch #: 918682	Sample: 466585-005 / SMP	P Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 07/18/13 16:32	SU	RROGATE R	ECOVERYS	STUDY			
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes			[D]				
1,4-Difluorobenzene		0.0315	0.0300	105	80-120			
4-Bromofluorobenzene		0.0243	0.0300	81	80-120			
Lab Batch #: 918682	Sample: 466585-006 / SMP	Batc	h: ¹ Matrix	:Soil				
Units: mg/kg	Date Analyzed: 07/18/13 16:48	SURROGATE RECOVERY STUDY						
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene		0.0308	0.0300	103	80-120			
4-Bromofluorobenzene		0.0288	0.0300	96	80-120			
Lab Batch #: 918540	Sample: 641162-1-BLK / BL	K Bate	h: ¹ Matrix	:Solid	1 1			
Units: mg/kg	Date Analyzed: 07/16/13 10:11	SU	RROGATE R	ECOVERY	STUDY			
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
14 Differench and an	Analytes	0.0217	0.0200		00.120			
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0317	0.0300	106	80-120			
4-Bromolluorobenzene		0.0313	0.0300	104	80-120			
Lab Batch #: 918702	Sample: 641226-1-BLK / BI							
Units: mg/kg	Date Analyzed: 07/17/13 17:56	SU	RROGATE R	ECOVERYS	STUDY			
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		77.3	100	77	70-135			
o-Terphenyl		49.2	50.0	98	70-135			
Lab Batch #: 918682	Sample: 641245-1-BLK / BI	K Bate	h: ¹ Matrix	Solid	· · · ·			
Units: mg/kg	Date Analyzed: 07/17/13 20:26	SU	RROGATE R	ECOVERY S	STUDY			
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene	J	0.0297	0.0300	99	80-120			
			1	1	ı			

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





ork Orders : 466585 Lab Batch #: 918540	, Sample: 641162-1-BKS / BI	KS Batc	Project I h: ¹ Matrix			
Units: mg/kg	Date Analyzed: 07/16/13 09:22		RROGATE R		STUDY	
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0355	0.0300	118	80-120	
4-Bromofluorobenzene		0.0292	0.0300	97	80-120	
Lab Batch #: 918702	Sample: 641226-1-BKS / BI	KS Batc	h: ¹ Matrix	:Solid		
Units: mg/kg	Date Analyzed: 07/17/13 18:17	SURROGATE RECOVERY STUDY				
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	1 11111 9 000	91.8	100	92	70-135	
o-Terphenyl		51.4	50.0	103	70-135	
Lab Batch #: 918682	Sample: 641245-1-BKS / BI	KS Batc	h: ¹ Matrix	:Solid	1	
Units: mg/kg	Date Analyzed: 07/17/13 19:23		RROGATE R		STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0340	0.0300	113	80-120	
4-Bromofluorobenzene		0.0289	0.0300	96	80-120	
Lab Batch #: 918540	Sample: 641162-1-BSD / BS	SD Batc	h: 1 Matrix	:Solid	I	
Units: mg/kg	Date Analyzed: 07/16/13 09:39		RROGATE R	ECOVERY S	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	Analytes	0.0357	0.0300	119	80-120	
4-Bromofluorobenzene		0.0293	0.0300	98	80-120	
Lab Batch #: 918702	Sample: 641226-1-BSD / BS					
	î r		RROGATE R		STUDY	
Units: mg/kg	Date Analyzed: 07/17/13 18:39	Amount	True		Control	
TPH	By SW8015 Mod Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flags
1-Chlorooctane		82.4	100	82	70-135	
			1			

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





'ork Orders : 466585 Lab Batch #: 918682	, Sample: 641245-1-BSD / B	SD Batch	Project I n: 1 Matrix			
Units: mg/kg	Date Analyzed: 07/17/13 19:38		RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1,4-Difluorobenzene		0.0349	0.0300	116	80-120	
4-Bromofluorobenzene		0.0356	0.0300	119	80-120	
Lab Batch #: 918702	<b>Sample:</b> 466619-001 S / MS			-		
Units: mg/kg	Date Analyzed: 07/17/13 19:23	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane		110	99.6	110	70-135	
o-Terphenyl		51.2	49.8	103	70-135	
Lab Batch #: 918682	Sample: 466585-006 S / MS	Batch	n: ¹ Matrix	:Soil	1 1	
Units: mg/kg	Date Analyzed: 07/18/13 18:24		RROGATE R		STUDY	
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene	1111119 005	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene		0.0354	0.0300	118	80-120	
Lab Batch #: 918702	Sample: 466619-001 SD / N	ASD Batch	n: 1 Matrix	: Soil	1	
Units: mg/kg	Date Analyzed: 07/17/13 19:45		RROGATE R		STUDY	
	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	Analytes	115	99.8	115	70-135	
o-Terphenyl		52.5	49.9	105	70-135	
Lab Batch #: 918682	Sample: 466585-006 SD / N					
Units: mg/kg	<b>Date Analyzed:</b> 07/18/13 18:40		RROGATE R		STUDY	
	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene	Апатунъ	0.0333	0.0300	111	80-120	
r,+ Dimuorooclizelle		0.0333	0.0300	1 111	00-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



#### Project Name: SUGS Historical Grobe 4" 1RP-1940

<b>Work Order #: 466585</b>								ject ID:			
Analyst: MAB	D	ate Prepar	red: 07/16/201	13			Date A	nalyzed: (	07/16/2013		
Lab Batch ID: 918540 S	ample: 641162-1-BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / F	BLANK S	SPIKE DUPI	LICATE	RECOVE	ERY STUD	Y	
BTEX by EPA 802 Analytes	1B Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0849	85	0.100	0.0861	86	1	70-130	35	
Toluene	<0.00100	0.100	0.0819	82	0.100	0.0833	83	2	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0854	85	0.100	0.0867	87	2	71-129	35	
m,p-Xylenes	<0.00201	0.201	0.165	82	0.201	0.168	84	2	70-135	35	
o-Xylene	<0.00100	0.100	0.0840	84	0.100	0.0860	86	2	71-133	35	
	-0.00100	0.100	0.0040	07	0.100	0.0000	00	-	/1155	55	
5					0.100	0.0800			)7/17/2013	55	
Analyst: MAB		ate Prepar	red: 07/17/201		0.100	0.0800	Date A		07/17/2013		
Analyst: MAB	D	ate Prepar Bate	ed: 07/17/201	13		I	Date A	nalyzed: ( Matrix: S	)7/17/2013 Solid		
Analyst: MAB Lab Batch ID: 918682 S Units: ^{mg/kg} BTEX by EPA 802	D ample: 641245-1-BKS	ate Prepar Batc BLAN Spike Added	red: 07/17/201 h #: 1 K /BLANK S Blank Spike Result	SPIKE / H Blank Spike %R	BLANK S	BPIKE DUPI Blank Spike Duplicate	Date A	nalyzed: ( Matrix: S	)7/17/2013 Solid		Flag
Analyst: MAB Lab Batch ID: 918682 S Units: ^{mg/kg} BTEX by EPA 802 Analytes	D ample: 641245-1-BKS 1B Blank Sample Result	ate Prepar Batc BLAN Spike	red: 07/17/201 h #: 1 K /BLANK S Blank Spike	SPIKE / H Blank Spike	BLANK S	BPIKE DUPI Blank Spike	Date An LICATE	nalyzed: ( Matrix: S RECOVI RPD	D7/17/2013 Solid ERY STUD Control Limits	OY Control Limits	Flag
Analyst: MAB Lab Batch ID: 918682 S Units: ^{mg/kg} BTEX by EPA 802 Analytes Benzene	D ample: 641245-1-BKS 1B Blank Sample Result	ate Prepar Batc BLAN Spike Added	red: 07/17/201 h #: 1 K /BLANK S Blank Spike Result	SPIKE / H Blank Spike %R	BLANK S	BPIKE DUPI Blank Spike Duplicate	Date A	nalyzed: ( Matrix: S RECOVI RPD	D7/17/2013 Solid ERY STUD Control Limits	OY Control Limits	Flag
Analyst: MAB Lab Batch ID: 918682 S Units: ^{mg/kg} BTEX by EPA 802 Analytes Benzene Toluene	D ample: 641245-1-BKS 1B Blank Sample Result [A]	ate Prepar Batc BLAN Spike Added [B]	red: 07/17/201 h #: 1 K /BLANK S Blank Spike Result [C]	SPIKE / F Blank Spike %R [D]	BLANK S Spike Added [E]	BPIKE DUPI Blank Spike Duplicate Result [F]	Date A	nalyzed: ( Matrix: ^S RECOVH RPD %	07/17/2013 Solid ERY STUD Control Limits %R	Control Limits %RPD	Flag
Analyst: MAB Lab Batch ID: 918682 S Units: ^{mg/kg} BTEX by EPA 802 Analytes Benzene	D ample: 641245-1-BKS 1B Blank Sample Result [A] <0.000998	ate Prepar Batc BLAN Spike Added [B] 0.0998	red: 07/17/201 h #: 1 K /BLANK S Blank Spike Result [C] 0.0904	SPIKE / H Blank Spike %R [D] 91	Spike Added [E]	Blank Spike Duplicate Result [F] 0.0809	Date An LICATE 1 Blk. Spk Dup. %R [G] 81	nalyzed: ( Matrix: S RECOVI RPD % 11	07/17/2013 Solid ERY STUD Control Limits %R 70-130	Y Control Limits %RPD 35	Flag
Analyst: MAB Lab Batch ID: 918682 S Units: ^{mg/kg} BTEX by EPA 802 Analytes Benzene Toluene	D ample: 641245-1-BKS 1B Blank Sample Result [A] <0.000998 <0.00200	ate Prepar Batc BLAN Spike Added [B] 0.0998 0.0998	red: 07/17/201 h #: 1 K /BLANK S Blank Spike Result [C] 0.0904 0.0884	3 SPIKE / H Blank Spike %R [D] 91 89	<b>3LANK S</b> Spike Added [E] 0.0994 0.0994	Blank Spike Duplicate Result [F] 0.0809 0.0814	Date A LICATE Blk. Spk Dup. %R [G] 81 82	nalyzed: ( Matrix: S RECOVE RPD % 11 8	07/17/2013 Solid ERY STUD Control Limits %R 70-130 70-130	Control Limits %RPD 35 35	Flag

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



#### Project Name: SUGS Historical Grobe 4" 1RP-1940

Work Order #: 466585								ject ID:			
Analyst: AMB	Da	ate Prepar	ed: 07/16/201	13	<b>Date Analyzed:</b> 07/16/2013						
Lab Batch ID: 918835 Sample: 641325-	1-BKS	Batc	h #: 1			Matrix: Solid					
Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Chloride	<2.00	50.0	47.9	96	50.0	47.9	96	0	90-110	20	
Analyst: KAN	Da	ate Prepar	ed: 07/17/201	13			Date A	nalyzed: (	07/17/2013		
Lab Batch ID: 918702 Sample: 641226-	1-BKS	Batel	<b>h #:</b> 1				Matrix: Solid				
Units: mg/kg		BLAN	K/BLANK S	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUE	ΟY	
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1090	109	1000	1060	106	3	70-135	35	
C12 - C28 Diesel Range Hydrocarbons	<15.0	1000	935	94	1000	957	96	2	70-135	35	

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



### Form 3 - MS Recoveries



#### Project Name: SUGS Historical Grobe 4" 1RP-1940

Work Order #: 466585							
Lab Batch #: 918835				Pro	oject ID:	:	
Date Analyzed: 07/16/2013	<b>Date Prepared:</b> 07/16/2013			Analyst: AMB			
QC- Sample ID: 466585-001 S		Batch #: 1		Γ	Matrix: S	oil	
Reporting Units: mg/kg	MATRIX / MATRIX SPIKE RECOVERY STUDY					DY	
Inorganic Anions by EPA 300		Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes		[A]	[B]				
Chloride		178	250	459	112	80-120	
Lab Batch #: 918835							
Date Analyzed: 07/17/2013	Date P	repared: 07/1	6/2013	Α	nalyst: A	MB	
QC- Sample ID: 466692-001 S		Batch #: 1		Γ	Matrix: S	oil	
Reporting Units: mg/kg		MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
<b>Inorganic Anions by EPA 300</b>		Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes		[A]	[B]				
Chloride		3.43	51.5	51.7	94	80-120	

Matrix Spike Percent Recovery  $[D] = 100^{*}(C-A)/B$ Relative Percent Difference  $[E] = 200^{*}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



### Form 3 - MS / MSD Recoveries

### Project Name: SUGS Historical Grobe 4" 1RP-1940



<b>Work Order # :</b> 466585						Project II	<b>)</b> :				
Lab Batch ID: 918682	QC- Sample ID:	466585	-006 S	Ba	tch #:	1 Matrix	x: Soil				
<b>Date Analyzed:</b> 07/18/2013	Date Prepared:	07/18/2	013	An	alyst: N	MAB					
Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		[D]	[E]	Kesun [F]	[G]	/0	701		l
Benzene	<0.00200	0.200	0.130	65	0.200	0.161	81	21	70-130	35	X
Toluene	< 0.00399	0.200	0.160	80	0.200	0.169	85	5	70-130	35	
Ethylbenzene	< 0.00200	0.200	0.163	82	0.200	0.193	97	17	71-129	35	
m,p-Xylenes	< 0.00399	0.399	0.307	77	0.400	0.383	96	22	70-135	35	
o-Xylene	<0.00200	0.200	0.170	85	0.200	0.206	103	19	71-133	35	
Lab Batch ID: 918702	QC- Sample ID:	466619	-001 S	Ba	tch #:	1 Matrix	x: Soil				
<b>Date Analyzed:</b> 07/17/2013	Date Prepared:	07/17/2	013	An	alyst: H	KAN					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample Result	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample		RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	<16.0	1070	1030	96	1070	1090	102	6	70-135	35	
C12 - C28 Diesel Range Hydrocarbons	<16.0	1070	967	90	1070	970	91	0	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}(C-F)/(C+F)$  Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



### Project Name: SUGS Historical Grobe 4" 1RP-1940

Work Order #: 466585

Lab Batch #: 918458				Project I	D:	
Date Analyzed: 07/12/2013 16:35	Date Prepar	Anal				
QC- Sample ID: 466585-001 D	Batch	Mat	rix: Soil			
Reporting Units: %		SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte			[B]			
Percent Moisture		3.80	3.67	3	20	

Spike Relative Difference RPD 200 * (B-A)/(B+A) All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit
Relinquished	Relinquis	Relinquished b	Special				8	SQ	904	0	CO	10	LAB # (lab use only)	ORDER #:	(lab use only)			9					Xenco The Environmer
hed by	the by: 0 0	hed by	Special Instructions:				1	1					뀨	JU	Ull n lacec		Sampler Signature	Telephone No:	City/State/Zip:	Company Address:	Company Name	Project Manager:	<b>Xenco Lapora</b> The Environmental Lab of Texas
Date	7/12/	Schoc Date	-				Topsoil-2	Topsoil-1	SP-4	SP-3	SP-2	SP-1	FIELD CODE	00	20		Camille Hu	432.520.7720	Midland, TX 79703	: 2057 Commerce	Nova Safety and Environmental	C	Laporatories
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Temperature Upon Receipt	Sample Hand Delivered by Sampler/Client Rep. ? by Courier? UPS	Labels on container(s) Custody seals on container(s) Custody seals on cooler(s)	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace?				_						Volatiles			Analyze For:		đ		Lea		HS	ALYSIS REQUEST Phone: 432-563-1800 Fax: 432-563-1713
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Page 17 of 18

Final 1.000



# **XENCO Laboratories**



Comments

Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 07/12/2013 09:30:00 AM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 466585	Temperature Measuring device used :

Sample Receipt Checklist	
#1 *Temperature of cooler(s)?	5.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

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

Analyst:

PH Device/Lot#:

 Checklist completed by:
 Mmg Moah Kelsey Brooks
 Date: 07/15/2013

 Checklist reviewed by:
 Mmg Moah Kelsey Brooks
 Date: 07/15/2013

# **Analytical Report 468609**

for

**Regency Gas** 

**Project Manager: Camille Bryant** 

SUGS Historical Grobe 4"

1RP-1940

20-AUG-13

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-13-14-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Lakeland: Florida (E84098) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



20-AUG-13



Project Manager: **Camille Bryant Regency Gas** 801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): **468609 SUGS Historical Grobe 4''** Project Address: Lea County, New Mexico

#### **Camille Bryant**:

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) 468609. 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. 468609 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully. mstroah

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 - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



### Sample Cross Reference 468609



### Regency Gas, Monahans, TX

SUGS Historical Grobe 4"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Excavation Floor-3 @19'	S	08-14-13 11:00	- 19 ft	468609-001





Client Name: Regency Gas Project Name: SUGS Historical Grobe 4''

Project ID: *1RP-1940* Work Order Number(s): *468609*  Report Date:20-AUG-13Date Received:08/15/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Project Id: 1RP-1940

Contact: Camille Bryant

Project Location: Lea County, New Mexico

### **Certificate of Analysis Summary 468609**

Regency Gas, Monahans, TX

Project Name: SUGS Historical Grobe 4"



Date Received in Lab:Thu Aug-15-13 11:30 amReport Date:20-AUG-13Project Manager:Kelsey Brooks

				Troject Manager.	Reisey Diooks	
Lab Id:	468609-001					
Field Id:	South Excavation Floor-3 @					
Depth:	19 ft					
Matrix:	SOIL					
Sampled:	Aug-14-13 11:00					
Extracted:	Aug-16-13 12:00					
Analyzed:						
	ND 0.000998					
	ND 0.00200					
	ND 0.000998					
	ND 0.00200					
	ND 0.000998					
Extracted:	Aug-20-13 13:21					
Analyzed:	Aug-20-13 15:32					
Units/RL:	mg/kg RL					
	226 2.00					
Extracted:						
Analyzed:	Aug-15-13 15:20					
Units/RL:	% RL					
	5.29 1.00					
Extracted:	Aug-19-13 17:00					
Analyzed:	Aug-20-13 03:04					
Units/RL:	mg/kg RL					
	ND 15.0					
	ND 15.0					
	ND 15.0					
	ND 15.0					
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed: Units/RL: Extracted: Analyzed: Units/RL: Extracted: Analyzed: Units/RL:	Field Id: South Excavation Floor-3 @         Depth:       19 ft         Matrix:       SOIL         Sampled:       Aug-14-13 11:00         Extracted:       Aug-16-13 12:00         Analyzed:       Aug-16-13 16:29         Units/RL:       mg/kg       RL         ND       0.000998         RExtracted:       Aug-20-13 13:21         Analyzed:       Aug-20-13 15:32         Units/RL:       mg/kg       RL         Z226       2.000       Extracted:         Analyzed:       Aug-15-13 15:20       Units/RL         Malyzed:       Aug-15-13 15:20       Units/RL         Malyzed:       Aug-20-13 03:04       Mug-15:0         Analyzed:       Aug-20-13 03:04       Mug-15:0         Analyzed:       Aug-20-13 03:04       <	Field Id:       South Excavation Floor-3 @         Depth:       19 ft         Matrix:       SOIL         Sampled:       Aug-14-13 11:00         Extracted:       Aug-16-13 12:00         Analyzed:       Aug-16-13 16:29         Units/RL:       mg/kg       RL         ND       0.000998         ND       0.00200         ND       0.000998         Stracted:       Aug-20-13 13:21         Analyzed:       Aug-20-13 15:32         Units/RL:       mg/kg       RL         226       2.00         Extracted:       Aug-15-13 15:20         Units/RL:       % RL         5.29       1.00         Extracted:       Aug-20-13 03:04         Units/RL:       Mg/kg       RL         ND       15.0       ND         ND       15.0       ND         ND       15.0	Field Id:       South Excavation Floor-3 @         Depth:       19 ft         Matrix:       SOIL         Sampled:       Aug-14-13 11:00         Extracted:       Aug-16-13 12:00         Analyzed:       Aug-16-13 16:29         Units/RL:       mg/kg       RL         ND       0.000998         ND       0.000098         Extracted:       Aug-20-13 13:21         Analyzed:       Aug-20-13 15:32         Units/RL:       mg/kg       RL         226       2.00       Image: State St	Lab Id:       468609-001         Field Id:       South Excavation Floor-3 @         Depth:       19 ft         Matrix:       SOIL         Sampled:       Aug-14-13 11:00         Extracted:       Aug-16-13 12:00         Analyzed:       Aug-16-13 16:29         Units/RL:       mg/kg       RL         ND       0.000998         ND       0.000098         Stracted:       Aug-20-13 13:21         Analyzet:       Aug-20-13 15:32         Units/RL:       mg/kg       RL         226       2.00          Extracted:       Aug-15-13 15:20         Units/RL:       %       RL         529       1.00          Extracted:       Aug-20-13 03:04         Units/RL: <td< th=""><th>Field Id:       South Excavation Floor-3 @         Depth:       19 ft         Matrix:       SOIL         Sampled:       Aug-14-13 11:00         Extracted:       Aug-16-13 12:00         Analyzed:       Aug-16-13 16:29         Units/RL:       mg/kg         RL       0.000998         ND       0.000998         Extracted:       Aug-20-13 13:21         Analyzed:       Aug-20-13 15:32         Units/RL:       mg/kg       RL         226       2.00          Extracted:       Aug-15-13 15:20         Units/RL:       %       RL         S29       1.00          Extracted:       Aug-19-13 17:00      <t< th=""></t<></th></td<>	Field Id:       South Excavation Floor-3 @         Depth:       19 ft         Matrix:       SOIL         Sampled:       Aug-14-13 11:00         Extracted:       Aug-16-13 12:00         Analyzed:       Aug-16-13 16:29         Units/RL:       mg/kg         RL       0.000998         ND       0.000998         Extracted:       Aug-20-13 13:21         Analyzed:       Aug-20-13 15:32         Units/RL:       mg/kg       RL         226       2.00          Extracted:       Aug-15-13 15:20         Units/RL:       %       RL         S29       1.00          Extracted:       Aug-19-13 17:00 <t< th=""></t<>

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

Huns Boah

Kelsey Brooks Project Manager

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### **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.

LOD Limit of Detection

LOQ Limit of Quantitation

Phone

(281) 240-4200

(214) 902 0300

(210) 509-3334

(813) 620-2000 (432) 563-1800

(770) 449-8800

(602) 437-0330

- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- RL Reporting Limit
- MDL Method Detection Limit SDL Sample Detection Limit
- PQL Practical Quantitation Limit MQL Method Quantitation Limit
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(214) 351-9139

(210) 509-3335 (813) 620-2033

(432) 563-1713

(770) 449-5477



## Project Name: SUGS Historical Grobe 4"

'ork Orders: 468609 Lab Batch #: 920843	9, Sample: 468609-001 / SMP	Batc		<b>D:</b> 1RP-1940		
Units: mg/kg	Date Analyzed: 08/16/13 16:29		RROGATE R		STUDY	
BTEZ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0300	0.0300	100	80-120	
4-Bromofluorobenzene		0.0271	0.0300	90	80-120	
Lab Batch #: 921023	Sample: 468609-001 / SMP	Batc	h: ¹ Matrix	:Soil		
Units: mg/kg	Date Analyzed: 08/20/13 03:04	SU	<b>RROGATE R</b>	ECOVERY S	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane	Analytes	89.8	100	90	70-135	
o-Terphenyl		50.0	50.0	100	70-135	
	~ (10(54.1 DLW/DL				10 155	
Lab Batch #: 920843	Sample: 642654-1-BLK / BI		h: ¹ Matrix RROGATE R		STUDV	
Units: mg/kg	Date Analyzed: 08/16/13 14:53	50	KRUGATE K			
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	Anarytes	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene		0.0236	0.0300	85	80-120	
Lab Batch #: 921023	<b>Sample:</b> 642764-1-BLK / BI				00 120	
	Date Analyzed: 08/19/13 20:34		RROGATE R	-	STUDY	
Units: mg/kg	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	-	90.4	100	90	70-135	
o-Terphenyl		49.8	50.0	100	70-135	
Lab Batch #: 920843	Sample: 642654-1-BKS / BK	KS Bate	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 08/16/13 14:04	SU	RROGATE R	ECOVERY S	STUDY	
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorobenzene	•	0.0333	0.0300	111	80-120	
			1	1	ı	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: SUGS Historical Grobe 4"

<b>ork Orders :</b> 468609 Lab Batch #: 921023	9, Sample: 642764-1-BKS / B	KS Batc	-	<b>D:</b> 1RP-1940		
Units: mg/kg	Date Analyzed: 08/19/13 19:41		RROGATE R		STUDY	
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		96.3	100	96	70-135	
o-Terphenyl		53.6	50.0	107	70-135	
Lab Batch #: 920843	Sample: 642654-1-BSD / B	SD Batc	h: ¹ Matrix	:Solid		
Units: mg/kg	Date Analyzed: 08/16/13 14:20	SU	<b>RROGATE R</b>	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorobenzene	A mary tes	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene		0.0289	0.0300	96	80-120	
Lab Batch #: 921023	Sample: 642764-1-BSD / B	SD Batc	h: ¹ Matrix	:Solid	1	
Units: mg/kg	Date Analyzed: 08/19/13 20:08	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane	Analytes	91.2	100	91	70-135	
o-Terphenyl		51.3	50.0	103	70-135	
Lab Batch #: 920843	Sample: 468304-001 S / MS				10 155	
	-		h: 1 Matrix RROGATE R	-	STUDY	
Units: mg/kg BTEX	Date Analyzed: 08/16/13 17:02 X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
	Analytes			[D]		
1,4-Difluorobenzene		0.0352	0.0300	117	80-120	
4-Bromofluorobenzene		0.0303	0.0300	101	80-120	
Lab Batch #: 921023	Sample: 468745-001 S / MS			:Water		
Units: mg/kg	Date Analyzed: 08/20/13 06:08	SU	<b>RROGATE R</b>	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	Analytto	92.0	100	92	70-135	
1 Children Children		92.0	100	92	/0-155	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



## Project Name: SUGS Historical Grobe 4"

Vork Orders : 468609	·		Project I	<b>D:</b> 1RP-1940		
Lab Batch #: 920843	Sample: 468304-001 SD / N	ASD Bate	h: ¹ Matrix	:Soil		
Units: mg/kg	Date Analyzed: 08/16/13 17:18	SU	<b>RROGATE R</b>	ECOVERY	STUDY	
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0330	0.0300	110	80-120	
4-Bromofluorobenzene		0.0293	0.0300	98	80-120	
Lab Batch #: 921023	Sample: 468745-001 SD / M	ASD Bate	h: ¹ Matrix	Water		
Units: mg/kg	Date Analyzed: 08/20/13 06:34	SU	<b>RROGATE R</b>	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	1 11111 y 000	89.0	100	89	70-135	
o-Terphenyl		52.7	50.0	105	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





### Project Name: SUGS Historical Grobe 4"

Work Order #: 468609			1RP-1940				
Lab Batch #: 921047 Date Analyzed: 08/20/2013		ample: 642757- pared: 08/20/20		Matrix: Analyst:			
Reporting Units: mg/kg	Ba	atch #: 1	BLANK /H	BLANK SPI	COVERY STUDY		
Inorganic Anions by EPA 300/30	00.1	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags
Analytes		[A]	[B]	Result [C]	%R [D]	%R	
Chloride		<2.00	200	198	99	90-110	

Blank Spike Recovery [D] = 100*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



#### Project Name: SUGS Historical Grobe 4"

Work Order #: 468609							Pro	ject ID: 1	RP-1940				
Analyst: KEB	Da	ate Prepar	red: 08/16/201	3			Date A	<b>analyzed:</b> 08/16/2013					
Lab Batch ID: 920843 Sample: 642654-1-E	BKS	Batc	<b>h #:</b> 1		Matrix: Solid								
Units: mg/kg	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag		
Analytes		[B]	[C]	[D]	[E]	Kesuit [r]	[G]						
Benzene	<0.000998	0.0998	0.0991	99	0.100	0.0992	99	0	70-130	35			
Toluene	<0.00200	0.0998	0.0953	95	0.100	0.0954	95	0	70-130	35			
Ethylbenzene	<0.000998	0.0998	0.0977	98	0.100	0.0984	98	1	71-129	35			
m,p-Xylenes	< 0.00200	0.200	0.194	97	0.200	0.195	98	1	70-135	35			
o-Xylene	<0.000998	0.0998	0.0980	98	0.100	0.0987	99	1	71-133	35			
Analyst: JUM	Da	ate Prepar	red: 08/19/201	3	<b>Date Analyzed:</b> 08/19/2013								
Lab Batch ID: 921023 Sample: 642764-1-E	BKS Batch #: 1 Matrix: Solid												
Units: ^{mg/kg}		BLAN	K/BLANK S	SPIKE / E	BLANK S	SPIKE DUPI	LICATE	RECOVE	ERY STUD	Y			
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		
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	924	92	1000	913	91	1	70-135	35			
C12 - C28 Diesel Range Hydrocarbons	<15.0	1000	936	94	1000	918	92	2	70-135	35			

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



### Form 3 - MS / MSD Recoveries

#### Project Name: SUGS Historical Grobe 4"



<b>Work Order # :</b> 468609						Project II	<b>):</b> 1RP-19	940			
Lab Batch ID: 920843	QC- Sample ID:	468304	-001 S	Ba	tch #:	1 Matrix	x: Soil				
<b>Date Analyzed:</b> 08/16/2013	Date Prepared:	08/16/2	013	An	alyst: F	KEB					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00101	0.101	0.0834	83	0.101	0.0946	94	13	70-130	35	
Toluene	< 0.00202	0.101	0.0787	78	0.101	0.0901	89	14	70-130	35	
Ethylbenzene	<0.00101	0.101	0.0767	76	0.101	0.0906	90	17	71-129	35	
m,p-Xylenes	< 0.00202	0.202	0.151	75	0.202	0.179	89	17	70-135	35	
o-Xylene	< 0.00101	0.101	0.0770	76	0.101	0.0916	91	17	71-133	35	
Lab Batch ID: 921047	QC- Sample ID:	468745	-001 S	Ba	tch #:	1 Matrix	<b>x:</b> Water				
<b>Date Analyzed:</b> 08/20/2013	Date Prepared:	08/20/2	013	An	alyst: F	RKO					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE RECO	OVERY	STUDY		
Reporting Units: mg/kg Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	M Spike Added [B]	IATRIX SPIK Spiked Sample Result [C]		RIX SPI Spike Added [E]	KE DUPLICA Duplicate Spiked Sample Result [F]	Spiked	OVERY RPD %	STUDY Control Limits %R	Control Limits %RPD	Flag
Inorganic Anions by EPA 300/300.1	Sample Result	Spike Added	Spiked Sample Result	Spiked Sample %R	Spike Added	Duplicate Spiked Sample	Spiked Dup. %R	RPD	Control Limits	Limits	Flag
Inorganic Anions by EPA 300/300.1 Analytes	Sample Result [A] 84.5	Spike Added [B] 205	Spiked Sample Result [C] 253	Spiked Sample %R [D] 82	Spike Added [E]	Duplicate Spiked Sample Result [F] 256	Spiked Dup. %R [G] 84	RPD %	Control Limits %R	Limits %RPD	Flag
Inorganic Anions by EPA 300/300.1 Analytes Chloride	Sample Result [A] 84.5 QC- Sample ID:	<b>Spike</b> Added [B] 205 468745	Spiked Sample Result [C] 253 -001 S	Spiked Sample %R [D] 82 Ba	Spike Added [E] 205	Duplicate Spiked Sample Result [F] 256 1 Matrix	Spiked Dup. %R [G]	RPD %	Control Limits %R	Limits %RPD	Flag
Inorganic Anions by EPA 300/300.1 Analytes Chloride Lab Batch ID: 921023	Sample Result [A] 84.5	<b>Spike</b> Added [B] 205 468745 08/19/2	Spiked Sample Result [C] 253 -001 S 013	Spiked Sample %R [D] 82 Ba An	Spike Added [E] 205 	Duplicate Spiked Sample Result [F] 256 1 Matrix	Spiked Dup. %R [G] 84 x: Water	<b>RPD</b> %	Control Limits %R 80-120	Limits %RPD	Flag
Inorganic Anions by EPA 300/300.1 Analytes Chloride Lab Batch ID: 921023 Date Analyzed: 08/20/2013	Sample Result [A] 84.5 QC- Sample ID:	<b>Spike</b> Added [B] 205 468745 08/19/2	Spiked Sample Result [C] 253 -001 S 013	Spiked Sample %R [D] 82 Ba An	Spike Added [E] 205 	Duplicate Spiked Sample Result [F] 256 1 Matrix UM	Spiked Dup. %R [G] 84 x: Water TE RECC Spiked	<b>RPD</b> %	Control Limits %R 80-120	Limits %RPD	Flag Flag
Inorganic Anions by EPA 300/300.1 Analytes Chloride Lab Batch ID: 921023 Date Analyzed: 08/20/2013 Reporting Units: mg/kg TPH By SW8015 Mod	Sample Result [A] 84.5 QC- Sample ID: Date Prepared: Parent Sample Result	Spike Added [B] 205 468745 08/19/2 M Spike Added	Spiked Sample Result [C] 253 -001 S 013 IATRIX SPIK Spiked Sample Result	Spiked Sample %R [D] 82 Ba An E / MAT Spiked Sample %R	Spike Added [E] 205 tch #: nalyst: J RIX SPI Spike Added	Duplicate Spiked Sample Result [F] 256 1 Matrix UM KE DUPLICA Duplicate Spiked Sample	Spiked Dup. %R [G] 84 x: Water TE REC Spiked Dup. %R	RPD % 1 OVERY : RPD	Control Limits %R 80-120 STUDY Control Limits	Limits %RPD 20 Control Limits	
Inorganic Anions by EPA 300/300.1 Analytes Chloride Lab Batch ID: 921023 Date Analyzed: 08/20/2013 Reporting Units: mg/kg TFH By SW8015 Mod Analytes	Sample Result [A] 84.5 QC- Sample ID: Date Prepared: Parent Sample Result [A]	Spike Added [B] 205 468745 08/19/2 M Spike Added [B]	Spiked Sample Result [C] 253 -001 S 013 IATRIX SPIK Spiked Sample Result [C]	Spiked Sample %R [D] 82 Ba An E / MAT Spiked Sample %R [D]	Spike Added [E] 205 tch #: nalyst: J RIX SPI Spike Added [E]	Duplicate Spiked Sample Result [F] 256 1 Matrix UM KE DUPLICA Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G] 84 x: Water TE RECC Spiked Dup. %R [G]	RPD % 1 OVERY RPD %	Control Limits %R 80-120 STUDY Control Limits %R	Limits %RPD 20 Control Limits %RPD	

Matrix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}(C-F)/(C+F)$  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: SUGS Historical Grobe 4"

Work Order #: 468609

Lab Batch #: 920902			Project l	<b>D:</b> ^{1RP-194}	0
Date Analyzed: 08/15/2013 15:20	Date Prepared: 08/15/201	3 Ana	lyst: WRU		
QC- Sample ID: 468467-001 D	<b>Batch #:</b> 1	Mat	t <b>rix:</b> Soil		
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	e Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Percent Moisture	<1.00	1.00	NC	20	

Spike Relative Difference RPD 200 * (B-A)/(B+A) All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

Relinquished	Relinquished by Relinquished by							LAB # (lab use only)	ORDER #:	(lab use only)							^r he Envi
ed by	Special Instructions:						South Excavation Floor-3	FIEL	9020 #	Ny)	Sampler Signature:	Telephone No:	City/State/Zip:	Company Address:	Company Name	Project Manager:	The Environmental Lab of Texas
Date	Trance Date						tion Floor-3 @ 19'	FIELD CODE	07	2	Comule	432.520.7720	Midland, TX 79703	2057 Commerce	Nova Safety and Environmental	Ca	8
	3/0				$\left  \right $			Beginning Depth		Kick	The	2			onmental	Camille Bryant	
Time	Time							Ending Depth		4	Test	>				ant	
Received by ELOT	Received by:						8/14/2013	Date Sampled		ena	yor	2					
DIE A A	(H)						11:00	Time Sampled			e-mail:	Fax No:					
X	0							Field Filtered	1								
5	9						-	Total #. of Containers			rac	432					
							×	Ice	P	phil	cbryant@	432.520.7701					12600 West I-20 East Odessa, Texas 79765
								HNO ₃	Preservation & # of Containers	phillip.little	cbryant@novatraining.cc iohnson@regencygas.cc	.770					ssa
					++	_	-	HCI	vatior								, Te
S		$\vdash$		$\vdash$	+		-	H ₂ SO ₄ NaOH	¢° #	Dre	nov						t I-20 East xas 79765
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ate	Date						+	DW=Drinking Water SL=Sludge	H	@regencygas.com	movatraining.cc	1	1	*	1		
-	W						Soil	GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix			Report Format:		5554		Pr	
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rier?	y Co of I sals sals							Metals: As Ag Ba Cd Cr Pb Hg	_	Π.	A	X Standard				S	Phone Fax:
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Rec	inta inta inta inta inta onta onta onta							Semivolatiles			PE			aC		list	43
Seipt	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace? Labels on container(s) Custody seals on cooler(s) Custody seals on cooler(s) Sample Hand Delivered by Sampler/Client Rep. ?						×	BTEX 8021B/5030 or BTEX 826	60		P			oun		oric	432-563-1800 432-563-1713
······································	r(s)							RCI		-		TRRP		ty, 7		al	Phone: 432-563-1800 Fax: 432-563-1713
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Го												NP				RP	
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0					-	_	×						1	1	1	4	

Final 1.000



### **XENCO Laboratories**



#### Prelogin/Nonconformance Report- Sample Log-In

Client: Regency Gas	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 08/15/2013 11:30:00 AM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 468609	Temperature Measuring device used :
Sample Recei	ipt Checklist Comments
#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	Νο
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody	? <b>Yes</b>
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch	h bubble)? N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, Zn	Ac+NaOH? N/A

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

Analyst:

PH Device/Lot#:

 Checklist completed by:
 Muss Moah Kelsey Brooks
 Date: 08/16/2013

 Checklist reviewed by:
 Muss Moah Kelsey Brooks
 Date: 08/16/2013

# Analytical Report 468745

for Regency Gas

**Project Manager: Camille Bryant** 

Historical Grobe 4"

1RP-1940

20-AUG-13

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-13-14-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Lakeland: Florida (E84098) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



20-AUG-13



Project Manager: **Camille Bryant Regency Gas** 801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): 468745 Historical Grobe 4" Project Address: Lea County, New Mexico

#### **Camille Bryant**:

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) 468745. 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. 468745 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully. mstroah

Kelsey Brooks Project Manager

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Sample Id West S/W-2 @9'

### Sample Cross Reference 468745



### Regency Gas, Monahans, TX

Historical Grobe 4"

Matrix	Date Collected	Sample Depth	Lab Sample Id
W	08-15-13 11:20	9 ft	468745-001





Client Name: Regency Gas Project Name: Historical Grobe 4"

Project ID: *1RP-1940* Work Order Number(s): *468745*  Report Date:20-AUG-13Date Received:08/16/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

**Analytical non conformances and comments:** Batch: LBA-920988 BTEX by EPA 8021B SW8021BM

Batch 920988, Ethylbenzene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Toluene recovered below QC limits in the Matrix Spike Duplicate. Samples affected are: 468745-001.

The Laboratory Control Sample for m,p-Xylenes, Toluene, Ethylbenzene, o-Xylene is within laboratory Control Limits



Project Id: 1RP-1940

Contact: Camille Bryant

Project Location: Lea County, New Mexico

### Certificate of Analysis Summary 468745

Regency Gas, Monahans, TX Project Name: Historical Grobe 4"



Date Received in Lab:Fri Aug-16-13 10:01 amReport Date:20-AUG-13Project Manager:Kelsey Brooks

			1	 Froject Manager:	Reisey Diooks	
	Lab Id:	468745-001				
Analysis Dequested	Field Id:	West S/W-2 @9'				
Analysis Requested	Depth:	9- ft				
	Matrix:	WATER				
	Sampled:	Aug-15-13 11:20				
BTEX by EPA 8021B	Extracted:	Aug-19-13 08:50				
	Analyzed:	Aug-19-13 12:22				
	Units/RL:	mg/kg RL				
Benzene		ND 0.00103				
Toluene		ND 0.00206				
Ethylbenzene		ND 0.00103				
m,p-Xylenes		ND 0.00206				
o-Xylene		ND 0.00103				
Total Xylenes		ND 0.00103				
Total BTEX		ND 0.00103				
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-20-13 13:21				
SUB: E871002	Analyzed:	Aug-20-13 14:36				
	Units/RL:	mg/kg RL		 		
Chloride		84.5 2.05				
Percent Moisture	Extracted:					
	Analyzed:	Aug-19-13 16:15				
	Units/RL:	% RL				
Percent Moisture		2.71 1.00		 		
TPH By SW8015 Mod	Extracted:	Aug-19-13 17:00				
	Analyzed:	Aug-20-13 04:22				
	Units/RL:	mg/kg RL				
C6-C12 Gasoline Range Hydrocarbons		ND 15.4				
C12-C28 Diesel Range Hydrocarbons		ND 15.4				
C28-C35 Oil Range Hydrocarbons		ND 15.4				
Total TPH		ND 15.4				

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

Huns Boah

Kelsey Brooks Project Manager

Page 5 of 15



### **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.

LOD Limit of Detection

LOQ Limit of Quantitation

Phone

(281) 240-4200

(214) 902 0300

(210) 509-3334

(813) 620-2000 (432) 563-1800

(770) 449-8800

(602) 437-0330

- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- RL Reporting Limit
- MDL Method Detection Limit SDL Sample Detection Limit
- PQL Practical Quantitation Limit MQL Method Quantitation Limit
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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12600 West I-20 East, Odessa, TX 79765
6017 Financial Drive, Norcross, GA 30071
3725 E. Atlanta Ave, Phoenix, AZ 85040

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Fax

(281) 240-4280

(214) 351-9139

(210) 509-3335 (813) 620-2033

(432) 563-1713

(770) 449-5477



## Project Name: Historical Grobe 4"

ork Orders : 468745				<b>D:</b> 1RP-1940						
Lab Batch #: 920988	Sample: 468745-001 / SMP	Batc		:Water						
Units: mg/kg	Date Analyzed: 08/19/13 12:22	SU	RROGATE R	ECOVERYS	STUDY					
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1,4-Difluorobenzene		0.0305	0.0300	102	80-120					
4-Bromofluorobenzene		0.0261	0.0300	87	80-120					
Lab Batch #: 921023	Sample: 468745-001 / SMP	Batc	h: ¹ Matrix	:Water						
Units: mg/kg	Date Analyzed: 08/20/13 04:22	SU	<b>RROGATE R</b>	ECOVERY S	STUDY					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane	Anarytes	89.3	100	89	70-135					
o-Terphenyl		50.2	50.0	100	70-135					
Lab Batch #: 920988	Sample: 642741-1-BLK / BI	.K Batc	h: ¹ Matrix	:Solid						
Units: mg/kg	Date Analyzed: 08/19/13 10:29	SURROGATE RECOVERY STUDY								
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1,4-Difluorobenzene		0.0311	0.0300	104	80-120					
4-Bromofluorobenzene		0.0264	0.0300	88	80-120					
Lab Batch #: 921023	Sample: 642764-1-BLK / BI	LK Batc	h: 1 Matrix	:Solid						
Units: mg/kg	Date Analyzed: 08/19/13 20:34	SU	<b>RROGATE R</b>	ECOVERY S	STUDY					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane	-	90.4	100	90	70-135					
o-Terphenyl		49.8	50.0	100	70-135					
Lab Batch #: 920988	Sample: 642741-1-BKS / BF	KS Batc	h: ¹ Matrix	:Solid						
Units: mg/kg	Date Analyzed: 08/19/13 09:41	SU	RROGATE R	ECOVERY S	STUDY					
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1,4-Difluorobenzene	• 	0.0350	0.0300	117	80-120					
				1						

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Historical Grobe 4"

'ork Orders : 468745 Lab Batch #: 921023	, Sample: 642764-1-BKS / B	KS Batc		<b>D:</b> 1RP-1940 <b>c:</b> Solid					
Units: mg/kg	Date Analyzed: 08/19/13 19:41		RROGATE R		STUDY				
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1-Chlorooctane		96.3	100	96	70-135				
o-Terphenyl		53.6	50.0	107	70-135				
Lab Batch #: 920988	Sample: 642741-1-BSD / B	SD Bate	h: ¹ Matrix	:Solid					
Units: mg/kg	Date Analyzed: 08/19/13 09:57	SU	RROGATE R	ECOVERY S	STUDY				
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene	7 <b>m</b> uly (CS	0.0345	0.0300	115	80-120				
4-Bromofluorobenzene		0.0273	0.0300	91	80-120				
Lab Batch #: 921023	Sample: 642764-1-BSD / B	SD Batc	h: ¹ Matrix	r:Solid					
Units: mg/kg	Date Analyzed: 08/19/13 20:08	SURROGATE RECOVERY STUDY							
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage			
1.011	Analytes								
1-Chlorooctane		91.2	100	91	70-135				
o-Terphenyl		51.3	50.0	103	70-135				
Lab Batch #: 920988	Sample: 468537-003 S / MS								
Units: mg/kg	Date Analyzed: 08/19/13 15:46	SU	RROGATE R	ECOVERY S	STUDY				
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage			
1.4-Difluorobenzene		0.0358	0.0300	119	80-120				
4-Bromofluorobenzene		0.0274	0.0300	91	80-120				
Lab Batch #: 921023	<b>Sample:</b> 468745-001 S / MS	Batc	h: 1 Matriy	K:Water					
Units: mg/kg	Date Analyzed: 08/20/13 06:08		RROGATE R		STUDY				
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage			
1-Chlorooctane	Analytes	92.0	100	92	70-135				
		9/11		· · · · · ·					

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



# Project Name: Historical Grobe 4"

Vork Orders: 468745	,	Project ID: 1RP-1940								
Lab Batch #: 920988	Sample: 468537-003 SD / M									
Units: mg/kg	Date Analyzed: 08/19/13 16:03	SU	<b>RROGATE R</b>	ECOVERY	STUDY					
BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1,4-Difluorobenzene		0.0344	0.0300	115	80-120					
4-Bromofluorobenzene		0.0276	0.0300	92	80-120					
Lab Batch #: 921023	Sample: 468745-001 SD / N	ASD Bate	h: ¹ Matrix	:Water						
Units: mg/kg	Date Analyzed: 08/20/13 06:34	SU	<b>RROGATE R</b>	ECOVERYS	STUDY					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane	-	89.0	100	89	70-135					
o-Terphenyl		52.7	50.0	105	70-135					

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





### Project Name: Historical Grobe 4"

<b>Work Order #:</b> 468745		Pro	oject ID:		1RP-1940		
Lab Batch #: 921047 Date Analyzed: 08/20/2013		ample: 642757- pared: 08/20/20		Matrix: Analyst:	~ ~ ~ ~ ~ ~		
Reporting Units: mg/kg	Ba	atch #: 1	BLANK /B	BLANK SPI	COVERY S	STUDY	
Inorganic Anions by EPA 300/300.1		Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags
Analytes		[A]	[B]	Result [C]	%R [D]	%R	
Chloride		<2.00	200	198	99	80-120	

Blank Spike Recovery [D] = 100*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit





#### Project Name: Historical Grobe 4"

Work Order #: 468745	D	ata Duanas	red: 08/19/201	2	Project ID: 1RP-1940 Date Analyzed: 08/19/2013								
Analyst: KEB           Lab Batch ID: 920988         Sample: 642741-1-1		-	h#: 1	5				Matrix: S					
Units: mg/kg		BLAN	K/BLANK S	SPIKE / E	BLANK S	PIKE DUPI	LICATE	RECOVE	ERY STUD	Y			
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag		
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]						
Benzene	<0.000998	0.0998	0.0982	98	0.100	0.0966	97	2	70-130	35			
Toluene	< 0.00200	0.0998	0.0908	91	0.100	0.0897	90	1	70-130	35			
Ethylbenzene	<0.000998	0.0998	0.0889	89	0.100	0.0879	88	1	71-129	35			
m,p-Xylenes	< 0.00200	0.200	0.177	89	0.201	0.175	87	1	70-135	35			
o-Xylene	<0.000998	0.0998	0.0884	89	0.100	0.0873	87	1	71-133	35			
Analyst: JUM	D	ate Prepai	ed: 08/19/201	3	Date Analyzed: 08/19/2013								
Lab Batch ID: 921023 Sample: 642764-1-1	BKS	Bate	<b>h #:</b> 1			Matrix: Solid							
Units: mg/kg		BLAN	K/BLANK S	SPIKE / E	BLANK S	PIKE DUPI	ICATE	RECOVE	ERY STUD	Y			
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		
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	924	92	1000	913	91	1	70-135	35			
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	936	94	1000	918	92	2	70-135	35			

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

# XENCO Laboratories

### Form 3 - MS / MSD Recoveries

#### Project Name: Historical Grobe 4"



<b>Work Order # :</b> 468745						Project II	<b>):</b> 1RP-19	40			
Lab Batch ID: 920988	QC- Sample ID:	468537	-003 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
<b>Date Analyzed:</b> 08/19/2013	Date Prepared:	08/19/2	013	An	alyst: F	KEB					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE RECO	OVERY	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00103	0.103	0.0887	86	0.104	0.0839	81	6	70-130	35	
Toluene	<0.00207	0.103	0.0756	73	0.104	0.0697	67	8	70-130	35	Х
Ethylbenzene	< 0.00103	0.103	0.0672	65	0.104	0.0604	58	11	71-129	35	Х
m,p-Xylenes	<0.00207	0.207	0.132	64	0.208	0.118	57	11	70-135	35	Х
o-Xylene	< 0.00103	0.103	0.0661	64	0.104	0.0591	57	11	71-133	35	Х
Lab Batch ID: 921047	QC- Sample ID:	468745	-001 S	Ba	tch #:	1 Matrix	<b>k:</b> Water				
<b>Date Analyzed:</b> 08/20/2013	Date Prepared:	08/20/2	013	An	nalyst: F	RKO					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE RECO	OVERY	STUDY		
Inorganic Anions by EPA 300/300.1	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		[D]	[E]	Kesun [F]	[G]	70	/01	70KI D	
Chloride	84.5	205	253	82	205	256	84	1	80-120	20	
Lab Batch ID: 921023	QC- Sample ID:	468745	-001 S	Ba	tch #:	1 Matrix	<b>k:</b> Water				
<b>Date Analyzed:</b> 08/20/2013	Date Prepared:	08/19/2	013	An	nalyst: J	UM					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE RECO	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]	[~]	[D]	[E]		[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.4	1030	906	88	1030	901	87	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.4	1030	934	91	1030	946	92	1	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}(C-F)/(C+F)$  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: Historical Grobe 4"

Work Order #: 468745

Lab Batch #: 920991 Date Analyzed: 08/19/2013 16:15 QC- Sample ID: 468745-001 D	Project ID: 1RP-1940Date Prepared: 08/19/2013Analyst: WRUBatch #:1Matrix: Water							
Reporting Units: %		SAMPLE	SAMPLE DUPLICATE RECOVER					
Percent Moisture Analyte		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag		
Percent Moisture		2.71	2.76	2	20			

Spike Relative Difference RPD 200 * (B-A)/(B+A) All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

Reinquished	Special Inst Relinquished	8					LAB # (lab use only)	ORDER #:	(lab use only)							The Env
hed by: h0 gr	Special Instructions:					West S/W-2 @ 9	HL8745	- 70 井 	only)	Sampler Signature	Telephone No: /432.520.7720	City/State/Zip: Midland	Company Address: 2057 Commerce	Company Name Nova Sa	Project Manager:	The Environmental Lab of Texas
8///0//3   Date						9'				Will Byour	.7720	Midland, TX 79703	ommerce	Nova Safety and Environmental	Camille Bryant	
U.O.	Time			_			Beginning Depth	-	C	X				tal	Bryant	
720	1						Ending Depth	4	£	Ň	1					
Repeived by ELOT	Received by:					8/15/2013	Date Sampled		yena	Kick	-				2.0	
A M	len					11:20	Time Sampled			e-mail:	Fax No:			-		
							Field Filtered	]	i.	31	4					
					+ +	X	Total #. of Containers	+	D	cbryant@novatraining.cc	432.520.7701					0 1
				-	-		HNO ₃	Pres	phillip.little@regencygas.com	cbr	20.7					12600 West I-20 East Odessa, Texas 79765
							HCI	Preservation	).littl	cbryant@i	701	1				) We sa, T
							H ₂ SO ₄	20	e@	i@n						st I- Fexa
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_							Na ₂ S ₂ O ₃	# of Containers	incy	novatraining.cc						ast )765
14	19			_			None	iners	gas	ing.						
Date	Date 7/16/13 Date		╋	+-			Other ( Specify) DW=Drinking Water SL=Sludge	Н	com	8	1	l		l	10	
5	N					Soil	GW = Groundwater S=Soil/Solid	Matrix		3	Rep					
	9						NP=Non-Potable Specify Other	×		120	Report Format:		P		Proj	
Time	Time 9:15 Time			_		×		)15B			Forn		Project Loc:	Pro	Project Name:	
	005 < 0F			_	+		TPH: TX 1005 TX 1006	-		1.00	nat:	PO #:	tLo	Project #:	Nam	
by Sampler/Client Rep. ? by Courier? UPS 1 Temperature Upon Receint:	abo OCs OCs usto			-	+ +		Cations (Ca, Mg, Na, K) Anions (Cl, SO4, Alkalinity)	-			50-1	.# 	1	# 	1	
by Sampler/Client Rep. ? by Courier? UPS Temperature Lloop Beceint	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace? Labels on container(s) Custody seals on cooler(s) Custody seals on cooler(s) Sample Hand Delivered			-	+		SAR / ESP / CEC		TCLP:		¥St				535	
npler.	e of conta eals eals						Metals: As Ag Ba Cd Cr Pb Hg			A	Standard				SUC	Fa
Clie	omn iners Heau aine on c on c						Volatiles			Analyze	ard		5		SE	Phone: 432-563-1800 Fax: 432-563-1713
UPS	inta inta is lnta ispa dspa dspa r(s) r(s) onta onta oole						Semivolatiles						a C		Hist	43
	s: act? ce? iner( iner( r(s)					×	BTEX 8021B/5030 or BTEX 82	260		F) P)			ount		oric	432-563-1800 432-563-1713
. PHL	(s)						RCI						y, No		al G	3-18
E							N.O.R.M.			1	P		ew N		rob	300
FedEx	·	_			 + +	×	CL 300	_			1100000		Lea County, New Mexico		SUGS Historical Grobe 4" 1RP-1940	
<u> </u>				+	 +						NP		ö		1R	
N Lone Star	zzzzzz				 +-+		RUSH TAT (Pre-Schedule) 24	49 7	2 hrs	-	1P				P-1	
· · ·	- 408.6000.0000000000000000000000000000000				 	×	Standard TAT	, 40, 1	- 115						940	

Final 1.000



### **XENCO Laboratories**



Prelogin/Nonconformance Report- Sample Log-In

Client: Regency Gas	Acceptable Temperature Range: 0 - 6 degC							
Date/ Time Received: 08/16/2013 10:01:00 AM	Air and Metal samples Acceptable Range: Ambient							
Work Order #: 468745	Temperature Measuring device used :							
Sample Rece	ipt Checklist Comments							
#1 *Temperature of cooler(s)?								
#2 *Shipping container in good condition?	Yes							
#3 *Samples received on ice?	Yes							
#4 *Custody Seals intact on shipping container/ cooler?	Yes							
#5 Custody Seals intact on sample bottles?	Yes							
#6 *Custody Seals Signed and dated?	Yes							
#7 *Chain of Custody present?	Yes							
#8 Sample instructions complete on Chain of Custody?	Yes							
#9 Any missing/extra samples?	Νο							
#10 Chain of Custody signed when relinquished/ received?	Yes							
#11 Chain of Custody agrees with sample label(s)?	Yes							
#12 Container label(s) legible and intact?	Yes							
#13 Sample matrix/ properties agree with Chain of Custody	/? Yes							
#14 Samples in proper container/ bottle?	Yes							
#15 Samples properly preserved?	Yes							
#16 Sample container(s) intact?	Yes							
#17 Sufficient sample amount for indicated test(s)?	Yes							
#18 All samples received within hold time?	Yes							
#19 Subcontract of sample(s)?	Yes							
#20 VOC samples have zero headspace (less than 1/4 inch	h bubble)? N/A							
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	? <b>N/A</b>							
#22 >10 for all samples preserved with NaAsO2+NaOH, Zr	nAc+NaOH? N/A							

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

Analyst:

PH Device/Lot#:

 Checklist completed by:
 Murg Moah Kelsey Brooks
 Date:
 08/19/2013

 Checklist reviewed by:
 Murg Moah Kelsey Brooks
 Date:
 08/19/2013

# **Analytical Report 468804**

for Regency Gas

Project Manager: Camille Bryant Historical Grobe 4" 1RP-1940

#### 22-AUG-13

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-13-14-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Lakeland: Florida (E84098) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



22-AUG-13



Project Manager: **Camille Bryant Regency Gas** 801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): **468804 Historical Grobe 4'' 1RP-1940** Project Address: Lea County, New Mexico

#### **Camille Bryant**:

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) 468804. 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. 468804 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully. mstroah

Kelsey Brooks Project Manager

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### Sample Cross Reference 468804



### Regency Gas, Monahans, TX

Historical Grobe 4" 1RP-1940

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Topsoil-3	S	08-16-13 12:00		468804-001
Topsoil-4	S	08-16-13 12:05		468804-002
SP-5	S	08-16-13 13:00		468804-003
SP-6	S	08-16-13 13:05		468804-004
SP-7	S	08-16-13 13:10		468804-005
SP-8	S	08-16-13 13:15		468804-006



CASE NARRATIVE



Client Name: Regency Gas Project Name: Historical Grobe 4" 1RP-1940

Project ID: Work Order Number(s): 468804 
 Report Date:
 22-AUG-13

 Date Received:
 08/19/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None


**Project Id:** 

## Certificate of Analysis Summary 468804

Regency Gas, Monahans, TX

Project Name: Historical Grobe 4" 1RP-1940



Date Received in Lab: Mon Aug-19-13 03:10 pm

Report Date: 22-AUG-13

Contact: Camille Bryant Project Location: Lea County, New Mexico

Toject Location: Lea County, New Mexico								Project Ma	nager:	Kelsey Brook	s		
	Lab Id:	468804-0	001	468804-0	02	468804-0	003	468804-0	004	468804-	005	468804-0	006
An aluaia Dean anted	Field Id:	Topsoil	-3	Topsoil-	4	SP-5		SP-6		SP-7		SP-8	
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL	SOIL		SOIL		SOIL			SOIL	
	Sampled:	Aug-16-13	12:00	Aug-16-13	12:05	Aug-16-13	13:00	Aug-16-13	13:05	Aug-16-13	13:10	Aug-16-13	13:15
BTEX by EPA 8021B	Extracted:	Aug-21-13	10:00	Aug-21-13	10:00	Aug-21-13	10:00	Aug-21-13	10:00	Aug-21-13	10:00	Aug-21-13	10:00
	Analyzed:	Aug-21-13	12:43	Aug-21-13	12:59	Aug-21-13	13:15	Aug-21-13	13:32	Aug-21-13	13:48	Aug-21-13	14:04
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00102	ND	0.00102	112	0.00105	ND	0.00106	ND	0.00105	ND	0.00107
Toluene		ND	0.00204	ND	0.00204	ND	0.00210	ND	0.00213	ND	0.00209	ND	0.00213
Ethylbenzene		ND 0.00102		ND	0.00102	ND	0.00105	ND	0.00106	ND	0.00105	ND	0.00107
m,p-Xylenes	ND 0.00204		0.00204	ND	0.00204	ND	0.00210	ND	0.00213	ND	0.00209	ND	0.00213
o-Xylene			0.00102	ND	0.00102	ND	0.00105	ND	0.00106	ND	0.00105	ND	0.00107
Total Xylenes	tal Xylenes ND 0.001		0.00102	ND	0.00102	ND	0.00105	ND	0.00106	ND	0.00105	ND	0.00107
Total BTEX ND 0.0		0.00102	ND	0.00102	ND	0.00105	ND	0.00106	ND	0.00105	ND	0.00107	
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-21-13 12:18		Aug-21-13	12:18	Aug-21-13	12:18	Aug-21-13	12:18	Aug-21-13	12:18	Aug-21-13	12:18
SUB: E871002	Analyzed:	Aug-21-13	17:51	Aug-21-13 16:55 Aug-21-13		Aug-21-13	Aug-21-13 18:10 Aug-21-13 18:28		Aug-21-13 18:47		Aug-21-13 19:06		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		58.7	2.03	37.1	2.04	120	2.11	304	2.13	248	2.11	271	2.13
Percent Moisture	Extracted:												
	Analyzed:	Aug-20-13	12:55	Aug-20-13	12:55	Aug-20-13	12:55	Aug-20-13	12:55	Aug-20-13	12:55	Aug-20-13	12:55
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		2.18	1.00	2.05	1.00	5.49	1.00	6.26	1.00	5.24	1.00	6.13	1.00
TPH By SW8015 Mod	Extracted:	Aug-20-13	18:30	Aug-20-13	18:30	Aug-20-13	18:30	Aug-20-13	18:30	Aug-20-13	18:30	Aug-20-13	18:30
	Analyzed:	Aug-21-13	03:53	Aug-21-13 (	04:17	Aug-21-13	04:40	Aug-21-13	05:28	Aug-21-13	05:52	Aug-21-13	06:17
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.3	ND	15.3	ND	15.9	ND	16.0	ND	15.8	ND	16.0
C12-C28 Diesel Range Hydrocarbons		32.9	15.3	ND	15.3	ND	15.9	ND	16.0	ND	15.8	ND	16.0
C28-C35 Oil Range Hydrocarbons		ND	15.3	ND	15.3	ND	15.9	ND	16.0	ND	15.8	ND	16.0
Total TPH		32.9	15.3	ND	15.3	ND	15.9	ND	16.0	ND	15.8	ND	16.0

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

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Huns Roah

Kelsey Brooks Project Manager

Page 5 of 16



# **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.

LOD Limit of Detection

LOQ Limit of Quantitation

- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- RL Reporting Limit
- MDL Method Detection Limit
   SDL Sample Detection Limit
- PQL Practical Quantitation Limit
   MQL Method Quantitation Limit
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(210) 509-3334

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Fax

(281) 240-4280

(214) 351-9139

(210) 509-3335



Project Name: Historical Grobe 4" 1RP-1940

' <b>ork Orders :</b> 468804 Lab Batch #: 921078	, Sample: 468804-001 / SMP	Batc	Project I h: ¹ Matrix			
	Date Analyzed: 08/21/13 03:53		RROGATE R		STUDY	
Units: mg/kg	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1-Chlorooctane		88.0	100	88	70-135	
o-Terphenyl		46.2	50.0	92	70-135	
Lab Batch #: 921078	Sample: 468804-002 / SMP	Bate	h: ¹ Matrix	:Soil		
Units: mg/kg	Date Analyzed: 08/21/13 04:17	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		87.5	100	88	70-135	
o-Terphenyl		46.1	50.0	92	70-135	
Lab Batch #: 921078	Sample: 468804-003 / SMP	Batc	h: ¹ Matrix	·· Soil	1	
Units: mg/kg	Date Analyzed: 08/21/13 04:40		RROGATE R		STUDY	
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1-Chlorooctane		89.8	100	90	70-135	
o-Terphenyl		48.2	50.0	96	70-135	
Lab Batch #: 921078	Sample: 468804-004 / SMP	Bate				
Units: mg/kg	Date Analyzed: 08/21/13 05:28	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	·	87.8	100	88	70-135	
o-Terphenyl		47.7	50.0	95	70-135	
Lab Batch #: 921078	Sample: 468804-005 / SMP	Batc	h: ¹ Matrix	Soil		
Units: mg/kg	Date Analyzed: 08/21/13 05:52	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		95.3	100	95	70-135	
o-Terphenyl			100	1 /	, 0 155	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Historical Grobe 4" 1RP-1940

ork Orders : 468804	., Sample: 468804-006 / SMP	<b>T</b> . ( )	Project I h: ¹ Matrix				
Lab Batch #: 921078	·	Batel	h: ¹ Matrix RROGATE R		STUDV		
Units: mg/kg	Date Analyzed: 08/21/13 06:17	50	KROGATE K				
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes			[D]			
1-Chlorooctane		88.0	100	88	70-135		
o-Terphenyl		47.8	50.0	96	70-135		
Lab Batch #: 921117	Sample: 468804-001 / SMP	Bate	h: ¹ Matrix	:Soil			
Units: mg/kg	Date Analyzed: 08/21/13 12:43	SU	RROGATE R	ECOVERY S	STUDY		
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	Anarytes	0.0303	0.0300	101	80-120		
4-Bromofluorobenzene		0.0275	0.0300	92	80-120		
Lab Batch #: 921117	Sample: 468804-002 / SMP	Batc	h: ¹ Matrix	:Soil	1		
Units: mg/kg	Date Analyzed: 08/21/13 12:59	SURROGATE RECOVERY STUDY					
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage	
140.0	Analytes			[D]			
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0302	0.0300	101	80-120		
		0.0269	0.0300	90	80-120		
Lab Batch #: 921117	Sample: 468804-003 / SMP	Bate	-				
Units: mg/kg	Date Analyzed: 08/21/13 13:15	SU	RROGATE R	ECOVERYS	STUDY		
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes			[D]			
1,4-Difluorobenzene		0.0298	0.0300	99	80-120		
4-Bromofluorobenzene		0.0273	0.0300	91	80-120		
Lab Batch #: 921117	Sample: 468804-004 / SMP	Batel					
Units: mg/kg	Date Analyzed: 08/21/13 13:32	SU	RROGATE R	ECOVERY	STUDY		
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene	<i>J</i>	0.0300	0.0300	100	80-120		
4-Bromofluorobenzene		0.0274	0.0300	91	80-120		

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Historical Grobe 4" 1RP-1940

' <b>ork Orders :</b> 468804 Lab Batch #: 921117	<b>Sample:</b> 468804-005 / SMP	Batcl	Project I h: 1 Matrix			
	· г		RROGATE R		STUDY	
Units: mg/kg BTE2	Date Analyzed: 08/21/13 13:48 X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1,4-Difluorobenzene		0.0303	0.0300	101	80-120	
4-Bromofluorobenzene		0.0283	0.0300	94	80-120	
Lab Batch #: 921117	Sample: 468804-006 / SMP	Batcl	h: ¹ Matrix	: Soil		
Units: mg/kg	Date Analyzed: 08/21/13 14:04	SU	RROGATE R	ECOVERY S	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1.4-Difluorobenzene	Anaryus	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene		0.0268	0.0300	89	80-120	
Lab Batch #: 921078	Sample: 642800-1-BLK / BI	.K Batcl	h: ¹ Matrix	. Solid		
Units: mg/kg	Date Analyzed: 08/21/13 01:06		RROGATE R	-	STUDY	
	-	Amount	True		Control	
IPH	By SW8015 Mod Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flag
1-Chlorooctane		90.5	100	91	70-135	
o-Terphenyl		49.8	50.0	100	70-135	
Lab Batch #: 921117	Sample: 642828-1-BLK / BI	.K Batcl	h: 1 Matrix	:Solid	1 1	
Units: mg/kg	Date Analyzed: 08/21/13 11:38		RROGATE R		STUDY	
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1,4-Difluorobenzene		0.0302	0.0300	101	80-120	
4-Bromofluorobenzene		0.0272	0.0300	91	80-120	
Lab Batch #: 921078	Sample: 642800-1-BKS / BK					
Units: mg/kg	Date Analyzed: 08/21/13 01:30	SU	RROGATE R	ECOVERYS	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	7.11.a1y 10.5	96.7	100	97	70-135	
. chlorootune		20.7	100	7/	10-155	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Historical Grobe 4" 1RP-1940

'ork Orders : 468804 Lab Batch #: 921117	, Sample: 642828-1-BKS / BK	S Batch	Project I n: 1 Matrix			
Units: mg/kg	Date Analyzed: 08/21/13 10:50		RROGATE R		STUDY	
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1,4-Difluorobenzene		0.0347	0.0300	116	80-120	
4-Bromofluorobenzene		0.0295	0.0300	98	80-120	
Lab Batch #: 921078	Sample: 642800-1-BSD / BS					
Units: mg/kg	Date Analyzed: 08/21/13 01:54	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		95.4	100	95	70-135	
o-Terphenyl		50.9	50.0	102	70-135	
Lab Batch #: 921117	Sample: 642828-1-BSD / BS	D Batch	n: ¹ Matrix	: Solid	1	
Units: mg/kg	Date Analyzed: 08/21/13 11:06		RROGATE R		STUDY	
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene	Analytes	0.0245	0.0200		00.120	
4-Bromofluorobenzene		0.0345	0.0300	115	80-120 80-120	
					80-120	
Lab Batch #: 921078	Sample: 468866-001 S / MS	Batch	n: 1 Matrix		STUDV	
Units: mg/kg	Date Analyzed: 08/21/13 02:42	501	KRUGATE K			
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	-	92.1	100	92	70-135	
o-Terphenyl		42.1	50.0	84	70-135	
Lab Batch #: 921117	Sample: 468804-001 S / MS	Batch	n: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 08/21/13 14:20	SUI	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0331	0.0300	110	80-120	
				1		

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Historical Grobe 4" 1RP-1940

Vork Orders : 468804 Lab Batch #: 921078	l, Sample: 468866-001 SD / N	ASD Bate	Project I h: ¹ Matrix			
Units: mg/kg	Date Analyzed: 08/21/13 03:06	SU	RROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		90.8	100	91	70-135	
o-Terphenyl		42.3	50.0	85	70-135	
Lab Batch #: 921117	Sample: 468804-001 SD / N	ASD Bate	h: ¹ Matrix	:Soil		
Units: mg/kg	Date Analyzed: 08/21/13 14:36	SU	RROGATE R	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0335	0.0300	112	80-120	
4-Bromofluorobenzene		0.0295	0.0300	98	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





## Project Name: Historical Grobe 4" 1RP-1940

<b>Work Order #:</b> 468804	Project ID:							
Lab Batch #: 921150	Sa	ample: 642811-	1-BKS	Matrix:	Solid			
<b>Date Analyzed:</b> 08/21/2013	Date Pre	pared: 08/21/20	)13	Analyst:				
Reporting Units: mg/kg	Ba	atch #: 1	BLANK /	BLANK SPI	KE REC	COVERY S	STUDY	
Inorganic Anions by EPA 300/300	).1	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags	
Analytes		[A]	[B]	Result [C]	%R [D]	%R		
Chloride		<2.00	200	191	96	80-120		

Blank Spike Recovery [D] = 100*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



#### Project Name: Historical Grobe 4" 1RP-1940

Work Order #: 468804	Project ID:												
Analyst: KEB	Da	ate Prepar	ed: 08/21/201	3	Date Analyzed: 08/21/2013								
Lab Batch ID: 921117         Sample: 642828-1-B	KS	Bate	<b>h #:</b> 1			Matrix: Solid							
Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY								Y			
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R [D]	Spike Added	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag		
Analytes		[D]	[C]	נען	[E]	Kesult [F]							
Benzene	<0.000994	0.0994	0.0942	95	0.0996	0.0957	96	2	70-130	35			
Toluene	< 0.00199	0.0994	0.0896	90	0.0996	0.0910	91	2	70-130	35			
Ethylbenzene	<0.000994	0.0994	0.0904	91	0.0996	0.0925	93	2	71-129	35			
m,p-Xylenes	< 0.00199	0.199	0.180	90	0.199	0.184	92	2	70-135	35			
o-Xylene	< 0.000994	0.0994	0.0912	92	0.0996	0.0935	94	2	71-133	35			
Analyst: ARM	Da	ate Prepar	ed: 08/20/201	3	Date Analyzed: 08/21/2013								
Lab Batch ID: 921078 Sample: 642800-1-B	KS	Batc	<b>h #:</b> 1					Matrix: S	olid				
Units: ^{mg/kg}		BLAN	K/BLANK S	SPIKE / E	BLANK S	PIKE DUPI	JCATE 1	RECOVE	CRY STUD	Y			
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		
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	922	92	1000	912	91	1	70-135	35			
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	937	94	1000	916	92	2	70-135	35			

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



## Form 3 - MS / MSD Recoveries

#### Project Name: Historical Grobe 4" 1RP-1940



<b>Work Order # :</b> 468804						Project II	):				
Lab Batch ID: 921117	QC- Sample ID:	468804	-001 S	Ba	tch #:	1 Matrix	k: Soil				
<b>Date Analyzed:</b> 08/21/2013	Date Prepared:	08/21/2	013	Ar	alyst: k	KEB					
Reporting Units: mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00103	0.103	0.0906	88	0.102	0.0888	87	2	70-130	35	
Toluene	< 0.00205	0.103	0.0861	84	0.102	0.0846	83	2	70-130	35	
Ethylbenzene	<0.00103	0.103	0.0861	84	0.102	0.0848	83	2	71-129	35	
m,p-Xylenes	< 0.00205	0.205	0.172	84	0.204	0.169	83	2	70-135	35	
o-Xylene	< 0.00103	0.103	0.0878	85	0.102	0.0865	85	1	71-133	35	
Lab Batch ID: 921150	QC- Sample ID:	468804	-002 S	Ba	tch #:	1 Matrix	x: Soil		I		
Date Analyzed: 08/21/2013	Date Prepared:			Ar	alyst: F						
Reporting Units: mg/kg					•	KE DUPLICA	TE REC	OVERY	STUDY		
Inorganic Anions by EPA 300/300.1	Parent Sample Result	Spike	Spiked Sample Result	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	Added [B]	[C]	%к [D]	E]	Kesult [F]	50K [G]	70	70 <b>K</b>	⁷ 0KFD	
Chloride	37.1	204	224	92	204	227	93	1	80-120	20	
Lab Batch ID: 921078	QC- Sample ID:	468866	-001 S	Ba	tch #:	1 Matrix	k: Soil				
<b>Date Analyzed:</b> 08/21/2013	Date Prepared:	08/20/2	013	Ar	alyst: A	ARM					
Reporting Units: mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	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
											1
C6-C12 Gasoline Range Hydrocarbons	<15.3	1020	907	89	1020	903	89	0	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}(C-F)/(C+F)$  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.



Sample Duplicate Recovery



#### Project Name: Historical Grobe 4" 1RP-1940

Work Order #: 468804

Lab Batch #: 921085			Project I	D:	
Date Analyzed: 08/20/2013 12:55 D	Date Prepared: 08/20/2013	3 Anal			
QC- Sample ID: 468808-001 D	<b>Batch #:</b> 1	Mat	rix: Soil		
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Percent Moisture	3.35	3.39	1	20	

Spike Relative Difference RPD 200 * (B-A)/(B+A) All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

telingfr	Relinquished	Reinqui	Specia										LAB # (lab use only)	ORDER #:	(lab use only)							The En
Relingershed by: V	shed by:	multe Augue	Special Instructions:								To	To	FIE	R# 40880		Sampler Signature	Telephone No:	City/State/Zip:	Company Address:	Company Name	Project Manager:	The Environmental Lab of Texas
Date	U MAN3	0	Pena				SP-8	SP-7	SP-6	SP-5	Topsoil-4	Topsoil-3	FIELD CODE	2		amille	432.520.7720	Midland, TX 79703	2057 Commerce	Nova Safety and Environmental	Ca	as
		311									-	-	Beginning Depth			The				onmental	Camille Bryant	
Time	Time 15:10	US S		-									Ending Depth			Ep					ant	
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	5	28					Soil	Soil	Soil	Soil	Soil	Soil	GW = Groundwater S=Soil/Solid	Matrix	-1-	IB	Rep					
	2	N.					-	-	-	-	-	-	NP=Non-Potable Specify Other	×		_	Report Format:		P		Proj	
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Temperature Upon Receipt:	Sample Hand Delivered by Sampler/Client Rep. by Courier? UPS	Labels on container(s) Custody seals on container(s) Custody seals on cooler(s)	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace?										Semivolatiles			Analyze For:			a Co		listo	432
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Page 16 of 16

Final 1.000



22-AUG-13



Project Manager: **Camille Bryant Regency Gas** 801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): **468804 Historical Grobe 4'' 1RP-1940** Project Address: Lea County, New Mexico

#### **Camille Bryant**:

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) 468804. 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. 468804 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully. mstroah

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 - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



# Sample Cross Reference 468804



## Regency Gas, Monahans, TX

Historical Grobe 4" 1RP-1940

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Topsoil-3	S	08-16-13 12:00		468804-001
Topsoil-4	S	08-16-13 12:05		468804-002
SP-5	S	08-16-13 13:00		468804-003
SP-6	S	08-16-13 13:05		468804-004
SP-7	S	08-16-13 13:10		468804-005
SP-8	S	08-16-13 13:15		468804-006



CASE NARRATIVE



Client Name: Regency Gas Project Name: Historical Grobe 4" 1RP-1940

Project ID: Work Order Number(s): 468804 
 Report Date:
 22-AUG-13

 Date Received:
 08/19/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



# Certificate of Analysis Summary 468804

Regency Gas, Monahans, TX

Project Name: Historical Grobe 4" 1RP-1940

**Project Id:** 

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Date	Received	in	Lab:	Mon A

<b>Report Date:</b>	22-AU
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								Project Ma	nager:	Kelse
	Lab Id:	468804-0	001	468804-	002	468804-0	003	468804-	004	
Anglusis Deguasted	Field Id:	Topsoil	-3	Topsoil-4		SP-5		SP-6		
Analysis Requested	Depth:									
	Matrix:	SOIL		SOIL		SOIL		SOIL		
Sampled:		Aug-16-13	12:00	Aug-16-13	12:05	Aug-16-13	13:00	Aug-16-13	13:05	A
BTEX by EPA 8021B Extracted:		Aug-21-13	10:00	Aug-21-13	10:00	Aug-21-13	10:00	Aug-21-13	10:00	A
	Analyzed:	Aug-21-13	12:43	Aug-21-13	12:59	Aug-21-13	13:15	Aug-21-13	13:32	A
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Benzene	ND	0.00102	ND	0.00102	ND	0.00105	ND	0.00106		
Toluene		ND	0.00204	ND	0.00204	ND	0.00210	ND	0.00213	
Ethylbenzene		ND	0.00102	ND	0.00102	ND	0.00105	ND	0.00106	
m,p-Xylenes	ND	0.00204	ND	0.00204	ND	0.00210	ND	0.00213		
o-Xylene	ND	0.00102	ND	0.00102	ND	0.00105	ND	0.00106		
Total Xylenes		ND	0.00102	ND	0.00102	ND	0.00105	ND	0.00106	
Total BTEX		ND	0.00102	ND	0.00102	ND	0.00105	ND	0.00106	
Inorganic Anions by EPA 300/300.1	Extracted:	: Aug-21-13 12:18		Aug-21-13	12:18	Aug-21-13	12:18	Aug-21-13	12:18	A
SUB: E871002	Analyzed:	Aug-21-13 17:51		Aug-21-13 16:55		Aug-21-13 18:10		Aug-21-13 18:28		A
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	1
Chloride		58.7	2.03	37.1	2.04	120	2.11	304	2.13	
Percent Moisture	Extracted:									
	Analyzed:	Aug-20-13	12:55	Aug-20-13	12:55	Aug-20-13	12:55	Aug-20-13	12:55	A
	Units/RL:	%	RL	%	RL	%	RL	%	RL	
Percent Moisture		2.18	1.00	2.05	1.00	5.49	1.00	6.26	1.00	
TPH By SW8015 Mod	Extracted:	Aug-20-13	18:30	Aug-20-13	18:30	Aug-20-13	18:30	Aug-20-13	18:30	A
	Analyzed:	Aug-21-13	03:53	Aug-21-13	04:17	Aug-21-13	04:40	Aug-21-13 05:28		A
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	1
C6-C12 Gasoline Range Hydrocarbons		ND	15.3	ND	15.3	ND	15.9	ND	16.0	
C12-C28 Diesel Range Hydrocarbons		32.9	15.3	ND	15.3	ND	15.9	ND	16.0	
C28-C35 Oil Range Hydrocarbons		ND	15.3	ND	15.3	ND	15.9	ND	16.0	
Total TPH		32.9	15.3	ND	15.3	ND	15.9	ND	16.0	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.

The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.

XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.

Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Km



# **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.

LOD Limit of Detection

LOQ Limit of Quantitation

- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- RL Reporting Limit
- MDL Method Detection Limit
   SDL Sample Detection Limit
- PQL Practical Quantitation Limit
   MQL Method Quantitation Limit
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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Project Name: Historical Grobe 4" 1RP-1940

' <b>ork Orders :</b> 468804 Lab Batch #: 921078	, Sample: 468804-001 / SMP	Batc	Project I h: ¹ Matrix					
	Date Analyzed: 08/21/13 03:53		RROGATE R		STUDY			
Units: mg/kg	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
	Analytes			[D]				
1-Chlorooctane		88.0	100	88	70-135			
o-Terphenyl		46.2	50.0	92	70-135			
Lab Batch #: 921078	Sample: 468804-002 / SMP	Bate	h: ¹ Matrix	:Soil				
Units: mg/kg	Date Analyzed: 08/21/13 04:17	SU	RROGATE R	ECOVERY S	STUDY			
TPH	TPH By SW8015 Mod Analytes			Recovery %R [D]	Control Limits %R	Flag		
1-Chlorooctane		87.5	100	88	70-135			
o-Terphenyl		46.1	50.0	92	70-135			
Lab Batch #: 921078	Sample: 468804-003 / SMP	Batc	h: ¹ Matrix	·· Soil	1			
Units: mg/kg	Date Analyzed: 08/21/13 04:40	SURROGATE RECOVERY STUDY						
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
	Analytes			[D]				
1-Chlorooctane		89.8	100	90	70-135			
o-Terphenyl		48.2	50.0	96	70-135			
Lab Batch #: 921078	Sample: 468804-004 / SMP	Batch: 1 Matrix: Soil						
Units: mg/kg	Date Analyzed: 08/21/13 05:28	SU	RROGATE R	ECOVERY S	STUDY			
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag		
1-Chlorooctane	·	87.8	100	88	70-135			
o-Terphenyl		47.7	50.0	95	70-135			
Lab Batch #: 921078	Sample: 468804-005 / SMP	Batc	h: ¹ Matrix	Soil				
Units: mg/kg	Date Analyzed: 08/21/13 05:52	SU	RROGATE R	ECOVERY S	STUDY			
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag		
1-Chlorooctane		95.3	100	95	70-135			
o-Terphenyl			100	1 /	, 0 155			

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Historical Grobe 4" 1RP-1940

ork Orders : 468804	., Sample: 468804-006 / SMP	<b>T</b> . ( )	Project I h: 1 Matrix						
Lab Batch #: 921078	·	Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY							
Units: mg/kg	Date Analyzed: 08/21/13 06:17	SURROGATE RECOVERT STUDT							
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1-Chlorooctane		88.0	100	88	70-135				
o-Terphenyl		47.8	50.0	96	70-135				
Lab Batch #: 921117	Sample: 468804-001 / SMP	Bate	h: ¹ Matrix	:Soil					
Units: mg/kg	Date Analyzed: 08/21/13 12:43	SU	RROGATE R	ECOVERY S	STUDY				
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene	Anarytes	0.0303	0.0300	101	80-120				
4-Bromofluorobenzene		0.0275	0.0300	92	80-120				
Lab Batch #: 921117	Sample: 468804-002 / SMP	Batc	h: ¹ Matrix	:Soil	1				
Units: mg/kg	Date Analyzed: 08/21/13 12:59	SURROGATE RECOVERY STUDY							
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage			
140.0	Analytes			[D]					
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0302	0.0300	101	80-120				
		0.0269	0.0300	90	80-120				
Lab Batch #: 921117	Sample: 468804-003 / SMP	Bate	-						
Units: mg/kg	Date Analyzed: 08/21/13 13:15	SU	RROGATE R	ECOVERYS	STUDY				
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1,4-Difluorobenzene		0.0298	0.0300	99	80-120				
4-Bromofluorobenzene		0.0273	0.0300	91	80-120				
Lab Batch #: 921117	Sample: 468804-004 / SMP	Batel							
Units: mg/kg	Date Analyzed: 08/21/13 13:32	SU	RROGATE R	ECOVERY	STUDY				
BTEZ	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene	<i>J</i>	0.0300	0.0300	100	80-120				
4-Bromofluorobenzene		0.0274	0.0300	91	80-120				

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Historical Grobe 4" 1RP-1940

' <b>ork Orders :</b> 468804 Lab Batch #: 921117	<b>Sample:</b> 468804-005 / SMP	Batcl	Project I h: 1 Matrix				
	· г		RROGATE R		STUDY		
Units: mg/kg BTE2	Date Analyzed: 08/21/13 13:48 X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag	
	Analytes			[D]			
1,4-Difluorobenzene		0.0303	0.0300	101	80-120		
4-Bromofluorobenzene		0.0283	0.0300	94	80-120		
Lab Batch #: 921117	Sample: 468804-006 / SMP	Batcl	h: ¹ Matrix	: Soil			
Units: mg/kg	Date Analyzed: 08/21/13 14:04	SURROGATE RECOVERY STUDY					
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag	
1.4-Difluorobenzene	Anaryus	0.0300	0.0300	100	80-120		
4-Bromofluorobenzene		0.0268	0.0300	89	80-120		
Lab Batch #: 921078	Sample: 642800-1-BLK / BI	.K Batcl	h: ¹ Matrix	. Solid			
Units: mg/kg	Date Analyzed: 08/21/13 01:06		RROGATE R	-	STUDY		
	-	Amount	True		Control		
IPH	By SW8015 Mod Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flag	
1-Chlorooctane		90.5	100	91	70-135		
o-Terphenyl		49.8	50.0	100	70-135		
Lab Batch #: 921117	Sample: 642828-1-BLK / BI	.K Batcl	h: 1 Matrix	:Solid	1 1		
Units: mg/kg	Date Analyzed: 08/21/13 11:38		RROGATE R		STUDY		
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag	
	Analytes			[D]			
1,4-Difluorobenzene		0.0302	0.0300	101	80-120		
4-Bromofluorobenzene		0.0272	0.0300	91	80-120		
Lab Batch #: 921078	Sample: 642800-1-BKS / BK						
Units: mg/kg	Date Analyzed: 08/21/13 01:30	SU	RROGATE R	ECOVERYS	STUDY		
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag	
1-Chlorooctane	7.11.a1y 10.5	96.7	100	97	70-135		
. chlorootune		20.7	100	7/	10-155		

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Historical Grobe 4" 1RP-1940

'ork Orders : 468804 Lab Batch #: 921117	, Sample: 642828-1-BKS / BK	S Batch	Project I n: 1 Matrix						
Units: mg/kg	Date Analyzed: 08/21/13 10:50	SURROGATE RECOVERY STUDY							
	BTEX by EPA 8021B			Recovery %R	Control Limits %R	Flag			
	Analytes			[D]					
1,4-Difluorobenzene		0.0347	0.0300	116	80-120				
4-Bromofluorobenzene		0.0295	0.0300	98	80-120				
Lab Batch #: 921078	Sample: 642800-1-BSD / BS								
Units: mg/kg	Date Analyzed: 08/21/13 01:54	SURROGATE RECOVERY STUDY							
TPH	TPH By SW8015 Mod Analytes			Recovery %R [D]	Control Limits %R	Flag			
1-Chlorooctane		95.4	100	95	70-135				
o-Terphenyl		50.9	50.0	102	70-135				
Lab Batch #: 921117	Sample: 642828-1-BSD / BS	D Batch	n: ¹ Matrix	: Solid	1				
Units: mg/kg	Date Analyzed: 08/21/13 11:06		RROGATE R		STUDY				
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag			
1,4-Difluorobenzene	Analytes	0.0245	0.0200		00.120				
4-Bromofluorobenzene		0.0345	0.0300	115	80-120 80-120				
					80-120				
Lab Batch #: 921078	Sample: 468866-001 S / MS	Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY							
Units: mg/kg	Date Analyzed: 08/21/13 02:42	501	KRUGATE K						
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag			
1-Chlorooctane	-	92.1	100	92	70-135				
o-Terphenyl		42.1	50.0	84	70-135				
Lab Batch #: 921117	Sample: 468804-001 S / MS	Batch	n: 1 Matrix	:Soil					
Units: mg/kg	Date Analyzed: 08/21/13 14:20	SUI	RROGATE R	ECOVERY S	STUDY				
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag			
1,4-Difluorobenzene		0.0331	0.0300	110	80-120				
				1					

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

o-Terphenyl		42.3	50.0	85	70-135				
Lab Batch #: 921117	Sample: 468804-001 SD / M	MSD Batch: 1 Matrix: Soil							
Units: mg/kg	Date Analyzed: 08/21/13 14:36	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene		0.0335	0.0300	112	80-120				
4-Bromofluorobenzene		0.0295	0.0300	98	80-120				

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Analytes	[A]	נטן	[C]	[D]	7010	
Chloride	<2.00	200	191	96	80-120	

Blank Spike Recovery [D] = 100*[C]/[B] All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit



#### Project Name: Historical Grobe 4" 1RP-1940

Work Order #: 468804								ject ID:			
Analyst: KEB	Da	ate Prepar	ed: 08/21/201	3			Date A	nalyzed: 0	8/21/2013		
Lab Batch ID: 921117         Sample: 642828-1-B	KS	Bate	<b>h #:</b> 1					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / E	BLANK S	PIKE DUPI	JCATE 1	RECOVE	CRY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R [D]	Spike Added	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[D]	[C]	נען	[E]	Kesult [F]	[4]				
Benzene	< 0.000994	0.0994	0.0942	95	0.0996	0.0957	96	2	70-130	35	
Toluene	< 0.00199	0.0994	0.0896	90	0.0996	0.0910	91	2	70-130	35	
Ethylbenzene	<0.000994	0.0994	0.0904	91	0.0996	0.0925	93	2	71-129	35	
m,p-Xylenes	< 0.00199	0.199	0.180	90	0.199	0.184	92	2	70-135	35	
o-Xylene	< 0.000994	0.0994	0.0912	92	0.0996	0.0935	94	2	71-133	35	
Analyst: ARM	Da	ate Prepar	ed: 08/20/201	3			Date A	nalyzed: 0	8/21/2013		
Lab Batch ID: 921078 Sample: 642800-1-B	KS	Batc	<b>h #:</b> 1					Matrix: S	olid		
Units: ^{mg/kg}		BLAN	K/BLANK S	SPIKE / E	BLANK S	PIKE DUPI	JCATE 1	RECOVE	CRY STUD	Y	
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
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	922	92	1000	912	91	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	937	94	1000	916	92	2	70-135	35	

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



## Form 3 - MS / MSD Recoveries

#### Project Name: Historical Grobe 4" 1RP-1940



<b>Work Order # :</b> 468804						Project II	):				
Lab Batch ID: 921117	QC- Sample ID:	468804	-001 S	Ba	tch #:	1 Matrix	k: Soil				
<b>Date Analyzed:</b> 08/21/2013	Date Prepared:	08/21/2	013	Ar	alyst: k	KEB					
Reporting Units: mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00103	0.103	0.0906	88	0.102	0.0888	87	2	70-130	35	
Toluene	< 0.00205	0.103	0.0861	84	0.102	0.0846	83	2	70-130	35	
Ethylbenzene	<0.00103	0.103	0.0861	84	0.102	0.0848	83	2	71-129	35	
m,p-Xylenes	< 0.00205	0.205	0.172	84	0.204	0.169	83	2	70-135	35	
o-Xylene	< 0.00103	0.103	0.0878	85	0.102	0.0865	85	1	71-133	35	
Lab Batch ID: 921150	QC- Sample ID:	468804	-002 S	Ba	tch #:	1 Matrix	x: Soil		I		
Date Analyzed: 08/21/2013	Date Prepared:			Ar	alyst: F						
Reporting Units: mg/kg					•	KE DUPLICA	TE REC	OVERY	STUDY		
Inorganic Anions by EPA 300/300.1	Parent Sample Result	Spike	Spiked Sample Result	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	Added [B]	[C]	%к [D]	E]	Kesult [F]	50K [G]	70	70 <b>K</b>	⁷ 0KFD	
Chloride	37.1	204	224	92	204	227	93	1	80-120	20	
Lab Batch ID: 921078	QC- Sample ID:	468866	-001 S	Ba	tch #:	1 Matrix	k: Soil				
<b>Date Analyzed:</b> 08/21/2013	Date Prepared:	08/20/2	013	Ar	alyst: A	ARM					
Reporting Units: mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	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
											1
C6-C12 Gasoline Range Hydrocarbons	<15.3	1020	907	89	1020	903	89	0	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}(C-F)/(C+F)$  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.



Sample Duplicate Recovery



#### Project Name: Historical Grobe 4" 1RP-1940

Work Order #: 468804

Lab Batch #: 921085			Project I	D:	
Date Analyzed: 08/20/2013 12:55 D	Date Prepared: 08/20/2013	3 Anal	lyst: WRU		
QC- Sample ID: 468808-001 D	<b>Batch #:</b> 1	Mat	rix: Soil		
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Percent Moisture	3.35	3.39	1	20	

Spike Relative Difference RPD 200 * (B-A)/(B+A) All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

telingfr	Relinquished	Reinqui	Specia										LAB # (lab use only)	ORDER #:	(lab use only)							The En
Relingershed by: V	shed by:	multe Augue	Special Instructions:								To	To	FIE	R# 40880		Sampler Signature	Telephone No:	City/State/Zip:	Company Address:	Company Name	Project Manager:	The Environmental Lab of Texas
Date	U MAN3	CO	Pena				SP-8	SP-7	SP-6	SP-5	Topsoil-4	Topsoil-3	FIELD CODE	2		amille	432.520.7720	Midland, TX 79703	2057 Commerce	Nova Safety and Environmental	Ca	as
		311									-	-	Beginning Depth			The				onmental	Camille Bryant	
Time	Time 15:10	US8		-									Ending Depth			Ep					ant	
Received by ELOT:		Rece					8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013	8/16/2013	Date Sampled		33 19	Sec. St					-	
U :TC	c Mu	Rep					13:15	13:10	13:05	13:00	12:05	12:00	Time Sampled		3	international contractions and the second contraction of the second co	Fax No:					
	2								-				Field Filtered			BI	41					
				-		+	1 ×	1 ×	1 ×	-1 ×	1 ×	1 ×	Total #. of Containers	+	D	ache	32.5					0.1
							<u> </u>	Ê	1		Ê	1	HNO ₃	Pres	phillip.little@r	cbryant@n rachel.johnson@	432.520.7701					12600 West I-20 East Odessa, Texas 79765
		2											нсі	ervat	Itt	Vant	701					sa, T
													H ₂ SO ₄	Preservation &	e@	n@n						st I- Fexa
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	-												Na ₂ S ₂ O ₃	# of Containers	incy	trair				-		ast 1765
	1	1/2		-	_			-	-	-	-	-	None Other ( Seccify)	ners	gas.	ovatraining.cc						
Date	Date 9//	T19113		$\vdash$		+	-	-	+		-	+-	Other ( Specify) DW=Drinking Water SL=Sludge	Н	egencygas.com	ovatraining.cc regencygas.com	I	I	al i	1	ł	
	5	28					Soil	Soil	Soil	Soil	Soil	Soil	GW = Groundwater S=Soil/Solid	Matrix	-1-	IB	Rep					
	2	N.					-	-	-	-	-	-	NP=Non-Potable Specify Other	×		_	Report Format:		P		Proj	
Ime	Time	Time 1/58				_	×	×	×	×	×	×		015B			Form		Project Loc:	Proj	Project Name:	
1	1	005	< S L			-	-	-		+	-	-	TPH: TX 1005 TX 1006 Cations (Ca, Mg, Na, K)				nat:	PO #:	t Loo	Project #:	lame	
mpe	by	Labels on container(s) Custody seals on cont Custody seals on cool	ampl			-					-		Anions (CI, SO4, Alkalinity)	-			×٦	177	ľ		I.	
eratu	le Ha Sam Cou	dy se	e Co Free					-	-	1		+	SAR / ESP / CEC	-	TOTAL:		X Standard					
IFP U	nier?	cont eals	of H										Metals: As Ag Ba Cd Cr Pb Hg			Þ	anda				SUG	Phone Fax:
noa	Clier	ainer on co	ners										Volatiles			nalyz	rd		Le		1 SE	X:
Temperature Upon Receipt:	Sample Hand Delivered by Sampler/Client Rep. by Courier? UPS	Labels on container(s) Custody seals on container(s) Custody seals on cooler(s)	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace?										Semivolatiles			Analyze For:			a Co		listo	432
eipt:	2. 2	ner(; (s)	ж <u>э</u> стэ				×	×	×	×	×	×	BTEX 8021B/5030 00 BTEX 82	260	:	ă			ounty		prica	Phone: 432-563-1800 Fax: 432-563-1713
	머	s)				+	-	-		-	-		RCI	-			TRRP		, Ne		G	432-563-1800 432-563-1713
	Fe			-		-	×	-	-	×	~	~	N.O.R.M. Chloride E 300				U		Lea County, New Mexico		SUGS Historical Grobe 4" 1RP-1940	13
2	Y FedEx	~ ~ ~	<b>~</b> ~	-			Ê	×	×	ŕ	×	×	Children Store	-	-				exicc		4	
1								$\vdash$				1		-	-		NP				1RP	
റ്	N N Lone Star	zzz	zz						1				RUSH TAT (Pre-Schedule) 24	, 48, 7	2 hrs	-	l				-19	
	ar						×	×	×	×	×	×	Standard TAT	T	-						40	

Page 16 of 16

Final 1.000

# **Analytical Report 468806**

for Regency Gas

Project Manager: Camille Bryant Historical Grobe 4" 1RP-1940

#### 22-AUG-13

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-13-14-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Lakeland: Florida (E84098) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



22-AUG-13



Project Manager: **Camille Bryant Regency Gas** 801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): **468806 Historical Grobe 4'' 1RP-1940** Project Address: Lea County, New Mexico

#### **Camille Bryant**:

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) 468806. 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. 468806 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully. mstroah

Kelsey Brooks Project Manager

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# Sample Cross Reference 468806



## Regency Gas, Monahans, TX

Historical Grobe 4" 1RP-1940

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Excavation SSW-4 @ 18'	S	08-16-13 13:30		468806-001



CASE NARRATIVE



Client Name: Regency Gas Project Name: Historical Grobe 4" 1RP-1940

Project ID: Work Order Number(s): 468806 
 Report Date:
 22-AUG-13

 Date Received:
 08/19/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Contact: Camille Bryant

**Project Id:** 

# Certificate of Analysis Summary 468806 Regency Gas, Monahans, TX Project Name: Historical Grobe 4" 1RP-1940



Date Received in Lab: Mon Aug-19-13 03:10 pm Report Date: 22-AUG-13

			Pro	Project Manager: Kelsey Brooks	
	Lab Id:	468806-001			
Augusta Damarad	Field Id: 5	Field Id: South Excavation SSW-4 @	(0)		
naisanhay sistimuy	Depth:				
	Matrix:	SOIL			
	Sampled:	Aug-16-13 13:30			
BTEX by EPA 8021B	Extracted:	Aug-21-13 10:00			
	Analyzed:	Aug-21-13 12:27			
	Units/RL:	mg/kg RL			
Benzene		ND 0.00103	3		
Toluene		ND 0.00206	9		
Ethylbenzene		ND 0.00103	3		
m_p-Xylenes		ND 0.00206	9		
o-Xylene		ND 0.00103	3		
Total Xylenes		ND 0.00103	3		
Total BTEX		ND 0.00103	3		
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-21-13 12:18			
SUB: TX104704215	Analyzed:	Aug-21-13 19:24			
	Units/RL:	mg/kg RL			
Chloride		146 2.07			
Percent Moisture	Extracted:				
	Analyzed:	Aug-20-13 12:55			
	Units/RL:	% RL			
Percent Moisture		3.51 1.00			
TPH By SW8015 Mod	Extracted:	Aug-20-13 18:30			
	Analyzed:	Aug-21-13 06:41			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.5	2		
C12-C28 Diesel Range Hydrocarbons		ND 15.5	2		
C28-C35 Oil Range Hydrocarbons		ND 15.5	2		
Total TPH		ND 15.5	2		

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

Murs Roah Kelsey Brooks Project Manager

Final 1.000



# **Flagging Criteria**



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

LOD Limit of Detection

LOQ Limit of Quantitation

Phone

(281) 240-4200

(214) 902 0300

(210) 509-3334

(813) 620-2000 (432) 563-1800

(770) 449-8800

(602) 437-0330

- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- RL Reporting Limit
- MDL Method Detection Limit SDL Sample Detection Limit
- PQL Practical Quantitation Limit MQL Method Quantitation Limit
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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Fax

(281) 240-4280

(214) 351-9139

(210) 509-3335 (813) 620-2033

(432) 563-1713

(770) 449-5477



Project Name: Historical Grobe 4" 1RP-1940

' <b>ork Orders :</b> 468806 Lab Batch #: 921078	o, Sample: 468806-001 / SMP	Batch	Project I 1: 1 Matrix			
Units: mg/kg	Date Analyzed: 08/21/13 06:41		RROGATE R		STUDY	
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1-Chlorooctane		84.8	100	85	70-135	
o-Terphenyl		45.3	50.0	91	70-135	
Lab Batch #: 921117	Sample: 468806-001 / SMP	Batch	n: 1 Matrix	<b>x:</b> Soil		
Units: mg/kg	Date Analyzed: 08/21/13 12:27	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1.4-Difluorobenzene		0.0307	0.0300	102	80-120	
4-Bromofluorobenzene		0.0275	0.0300	92	80-120	
Lab Batch #: 921078	Sample: 642800-1-BLK / BL	K Batch	n: ¹ Matrix	r: Solid	1	
Units: mg/kg	Date Analyzed: 08/21/13 01:06		RROGATE R		STUDY	
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1-Chlorooctane		90.5	100	91	70-135	
o-Terphenyl		49.8	50.0	100	70-135	
Lab Batch #: 921117	<b>Sample:</b> 642828-1-BLK / BL	K Batch	n: 1 Matrix	<b>x:</b> Solid		
Units: mg/kg	Date Analyzed: 08/21/13 11:38	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1,4-Difluorobenzene		0.0302	0.0300	101	80-120	
4-Bromofluorobenzene		0.0272	0.0300	91	80-120	
Lab Batch #: 921078	Sample: 642800-1-BKS / BK					
Units: mg/kg	Date Analyzed: 08/21/13 01:30	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	Analytts	96.7	100	97	70-135	
1-CHIOLOGIANE		90./	100	1 9/	1 /0-133	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Historical Grobe 4" 1RP-1940

7 <b>ork Orders :</b> 468806 Lab Batch #: 921117	9, Sample: 642828-1-BKS / Bk	S Batcl	Project I h: ¹ Matrix			
Units: mg/kg	Date Analyzed: 08/21/13 10:50		RROGATE R		STUDY	
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1,4-Difluorobenzene		0.0347	0.0300	116	80-120	
4-Bromofluorobenzene		0.0295	0.0300	98	80-120	
Lab Batch #: 921078	Sample: 642800-1-BSD / BS	D Batch	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 08/21/13 01:54	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		95.4	100	95	70-135	
o-Terphenyl		50.9	50.0	102	70-135	
Lab Batch #: 921117	Sample: 642828-1-BSD / BS	D Batcl	h: ¹ Matrix	r•Solid	1 1	
Units: mg/kg	Date Analyzed: 08/21/13 11:06		RROGATE R		STUDY	
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
	Analytes			[D]		
1,4-Difluorobenzene		0.0345	0.0300	115	80-120	
4-Bromofluorobenzene		0.0301	0.0300	100	80-120	
Lab Batch #: 921078	Sample: 468866-001 S / MS	Batcl	h: 1 Matrix	: Soil		
Units: mg/kg	Date Analyzed: 08/21/13 02:42	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	v	92.1	100	92	70-135	
o-Terphenyl		42.1	50.0	84	70-135	
Lab Batch #: 921117	Sample: 468804-001 S / MS	Batcl	h: 1 Matrix	Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 08/21/13 14:20	SU	RROGATE R	ECOVERY S	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0331	0.0300	110	80-120	
4-Bromofluorobenzene						

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution



Project Name: Historical Grobe 4" 1RP-1940

Vork Orders : 468806 Lab Batch #: 921078	5, Sample: 468866-001 SD / N	ASD Bate	Project I h: ¹ Matrix			
Units: mg/kg	Date Analyzed: 08/21/13 03:06	SU	<b>RROGATE R</b>	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	Analytes	90.8	100	91	70-135	
o-Terphenyl		42.3	50.0	85	70-135	
Lab Batch #: 921117	Sample: 468804-001 SD / M	ASD Bate	h: ¹ Matrix	:Soil		
Units: mg/kg	Date Analyzed: 08/21/13 14:36	SU	<b>RROGATE R</b>	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0335	0.0300	112	80-120	
4-Bromofluorobenzene		0.0295	0.0300	98	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution





## Project Name: Historical Grobe 4" 1RP-1940

<b>Work Order #:</b> 468806			Pr	oject ID:			
Lab Batch #: 921150	Sa	ample: 642811-	1-BKS	Matrix:	Solid		
<b>Date Analyzed:</b> 08/21/2013	Date Prej	pared: 08/21/20	)13	Analyst:	RKO		
Reporting Units: mg/kg	Ba	atch #: 1	BLANK /	BLANK SPI	KE REC	COVERY S	STUDY
Inorganic Anions by EPA 300/30	0.1	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags
Analytes		[A]	[B]	Result [C]	%R [D]	%R	
Chloride		<2.00	200	191	96	80-120	

Blank Spike Recovery [D] = 100*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



#### Project Name: Historical Grobe 4" 1RP-1940

<b>Work Order #: </b> 468806	Project ID:												
Analyst: KEB	Da	ed: 08/21/201		<b>Date Analyzed:</b> 08/21/2013									
Lab Batch ID: 921117         Sample: 642828-1-B	KS	Bate	<b>h #:</b> 1			Matrix: Solid							
Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUD											
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag		
Analytes					[E]								
Benzene	<0.000994	0.0994	0.0942	95	0.0996	0.0957	96	2	70-130	35			
Toluene	<0.00199	0.0994	0.0896	90	0.0996	0.0910	91	2	70-130	35			
Ethylbenzene	< 0.000994	0.0994	0.0904	91	0.0996	0.0925	93	2	71-129	35			
m_p-Xylenes	<0.00199	0.199	0.180	90	0.199	0.184	92	2	70-135	35			
o-Xylene	<0.000994	0.0994	0.0912	92	0.0996	0.0935	94	2	71-133	35			
Analyst: ARM	Date Prepared:         08/20/2013         Date Analyzed:         08/21/2013												
Lab Batch ID: 921078 Sample: 642800-1-B	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		
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	922	92	1000	912	91	1	70-135	35			
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	937	94	1000	916	92	2	70-135	35			

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



## Form 3 - MS / MSD Recoveries

#### Project Name: Historical Grobe 4" 1RP-1940



<b>Work Order # :</b> 468806						Project II	):				
Lab Batch ID: 921117	QC- Sample ID:	468804	-001 S	Ba	tch #:	1 Matrix	x: Soil				
<b>Date Analyzed:</b> 08/21/2013	Date Prepared:	08/21/2	013	Ar	alyst: k	KEB					
Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00103	0.103	0.0906	88	0.102	0.0888	87	2	70-130	35	
Toluene	<0.00105	0.103	0.0900	84	0.102	0.0846	83	2	70-130	35	
Ethylbenzene	<0.00203	0.103	0.0861	84	0.102	0.0848	83	2	71-129	35	
m p-Xylenes	< 0.00205	0.205	0.172	84	0.204	0.169	83	2	70-135	35	
o-Xylene	< 0.00103	0.103	0.0878	85	0.102	0.0865	85	1	71-133	35	
Lab Batch ID: 921150	QC- Sample ID:	468804	-002 S	Ba	tch #:	1 Matrix	x: Soil	<u> </u>			
Date Analyzed: 08/21/2013	Date Prepared:				nalyst: F						
<b>Reporting Units:</b> mg/kg	1				•	KE DUPLICA	TE REC	OVERY	STUDY		
Inorganic Anions by EPA 300/300.1	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Chloride	37.1	204	224	92	204	227	93	1	80-120	20	
Lab Batch ID: 921078	QC- Sample ID:	468866	-001 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
<b>Date Analyzed:</b> 08/21/2013	Date Prepared:	08/20/2	013	Ar	alyst: A	ARM					
Reporting Units: mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	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
						1		1	1	1	
C6-C12 Gasoline Range Hydrocarbons	<15.3	1020	907	89	1020	903	89	0	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}(C-F)/(C+F)$  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.



Sample Duplicate Recovery



#### Project Name: Historical Grobe 4" 1RP-1940

Work Order #: 468806

Lab Batch #: 921085			Project I	D:	
<b>Date Analyzed:</b> 08/20/2013 12:55 <b>Date</b>	Prepared: 08/20/2013	3 Anal			
QC- Sample ID: 468808-001 D	<b>Batch #:</b> 1	Mat	rix: Soil		
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Percent Moisture	3.35	3.39	1	20	

Spike Relative Difference RPD 200 * (B-A)/(B+A) All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit District I 1625 N. French Dr , Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District W District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

f New Mexico s and Natural Resources	11:30 400	R 28	02.					
ervation Division th St. Francis Dr. Fe, NM 87505	Submit 2 Copies to approp District Office in accord with Rule 116 on side of							
on and Corrective A OPERATOR		tial Report	)- Final Report					
Contact	(		Tony Savoie					
Telephone No.			575-395-2116					
Facility Type		Natu	ral Gas Gathering					
: Fee	Lease		51P.90					
	s and Natural Resources ervation Division th St. Francis Dr. Fe, NM 87505 on and Corrective A OPERATOR Contact Telephone No. Facility Type	f New Mexico II: 30 Am s and Natural Resources 575 395 ervation Division th St. Francis Dr. Fe, NM 87505 In and Corrective Action OPERATOR Ini Contact Telephone No. Facility Type	s and Natural Resources 575 395 9949 Revervation Division Submit 2 C District C With St. Francis Dr. With St. Fran					

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			<b>OPERA</b>	FOR .		Initial	Report	)' Final	Repor
	outhern Union Gas Services P.O. Box 1226 Jal, N.M.		Contact		L		/	Tony Sa	
Address									
Facility Name	Facility Typ	be			the state of the state	ral Gas Gath			
Surface Owner: Elena Bell Gr	obe Mineral	Owner:	: Fee		L	ease No	and the second sec	0.025.10	SV
The second s	and the second		N OF REI					JIR 9	Ų
Unit Letter Section Towns A 8 24S		Nort	h/South Line	Feet from the	East/West	Line	County	Lea	
21			1 Longitud	e W103 10.66 EASE	5 3		BELS	<b>)</b> .	
Type of Release : Natural Gas			Follow and Shared Street	Release: 10 bbls and 50mcf natura		lume Re	covered	Nońe -	
Source of Release : 4" Natural G	as Pipeline		Unknown	Iour of Occurrenc	Tin	ne: 9:10		overy 8/26/	08
Was Immediate Notice Given?	Yes No Not	Required	If YES, To	Whom? Buddy I	Hill NMOCE	)			
By Whom?				lour: 8/26/08 9:1					2
Was a Watercourse Reached?	🗋 Yes 🖾 No		If YES, Vo	olume Impacting t	he_Wata	10-14	1)		1
	1000 North Contraction (1000)			PIPELINE LE	AK INFO	ting P	SI, Daily	thruput,	\ !
If a Watercourse was Impacted, I	Describe Fully.*	1.20	on I	· - 0170 NOI	I lai YP		(if oil)		ļ
	Dist INF	1 110							:
	(Net	0 00	7	field gathering dimensions of	f liquid SP	bill, yea	ar of insta	allation	1
Describe Cause of Problem an	d Remedial Action Taken *	un	2	dimensions c	n nqu			•	
A 4" Natural gas pipeline leak			oil. The line	vas blocked in a	nd blown d	Iown P	ermanent	renairs will	he
made by replacing approximat	tely 500 ft. of 4" steel line w	vith 4" I	Poly pipe.						
Describe Area Affected and Clea on the pipeline right of way and v misted to the north west carried b spills.	vas soaked up with dry soil on	site. An	area measuring	g approximately 2	1,000 sq. ft.	was affe	cted by the	crude oil that	at
I hereby certify that the informati regulations all operators are requi public health or the environment. should their operations have faile or the environment. In addition, I federal, state, or local laws and/or	red to report and/or file certain The acceptance of a C-141 rep d to adequately investigate and NMOCD acceptance of a C-14	port by the remedia	notifications a he NMOCD m ate contaminati	nd perform correc arked as "Final R on that pose a thr e the operator of r	tive actions eport" does eat to ground responsibilit	for releat not reliev 1 water, s y for con	ses which r ve the opera surface wat npliance wi	nay endanger ator of liabilit er, human he ith any other	r tv
	0 0			OIL CON	SERVAT	IONE	DIVISIO	N	
Signature: Ou	2 Dance		Approved by	District Supervis		hange			
Printed Name: John A. Savoid	3			ENVIR	ONMENT	AL EN	GINEER	3	
Title: Waste Management and R	emediation Specialist		Approval Dat	e: B'ZB.	CO Expin	ration Da	ate: 9,7	80.8	r
E-mail Address: tony.savoie@su	g.com		Conditions of	Approval:		1	Attached	C. Bernerd.	
Date: 8/27/08	Phone: 575-395-2116		Sur	SMIT-FINOM	_C-14	184	4RP2	# 1940	r i
Attach Additional Sheets If Ne	Cessary RECEN	Ve		ude all			HULED ,	MATERN	ţe.
1 ett.	AUG 2 8 7	003	11 - 11 - 1.24					500 <b>4.</b> *	9 - 1987 <del>7</del> 78
2	HOBBS	<b>;</b> 01	CD :	11 a		*	奥		